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Essays in Corporate Governance and Control

by

Olubunmi Ibikunle Faleye

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Essays in Corporate Governance and Control submitted by Olubunmi Ibikunle Faleye in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Finance.

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Dedication

To the memory of my parents, and to Folashade.

Abstract

The first essay of this dissertation examines the effectiveness of the proxy fight in containing the agency problems of excessive corporate cash holding. While the takeover market is often suggested as appropriate for this role, recent work shows that this is not the case. This paper focuses on the takeover-deterrence effects of corporate liquidity and suggests the proxy contest as an effective alternative control mechanism. I find that proxy fight targets hold 57% more cash than comparable firms not targeted, and that the probability of a contest is significantly increasing in excess cash holdings. Proxy fight announcement return also is positively related to excess cash. Following a contest, executive turnover and special cash distributions to shareholders increase while cash holdings revert to normal levels. These results suggest that the breakdown in internal control indicated by excessive liquidity is mitigated by shareholders acting via a proxy fight to refocus management on value maximization or replace the incumbent team.

The second essay investigates how corporate governance differs in firms with significant labor equity stakes. Labor has a large contractual claim on a firm's cash flow. Labor equity ownership gives employees both a fractional stake in the firm's residual cash flows and a voice in corporate governance. This paper shows that, relative to otherwise similar firms, labor-controlled publicly-traded firms invest less, take fewer risks, grow more slowly, create fewer new jobs, and exhibit lower labor and total factor productivity. Thus, it appears that labor uses its corporate governance voice to maximize the combined value of its contractual and residual claims, thereby pushing corporate policies away from, rather than towards, shareholder value maximization.

The third essay studies the relationship between governance structure and the return to the shareholders of a bidding firm in an acquisition. Prior work documents a significant relationship between bidder return and observed bid characteristics. Since these characteristics are strategic choices made by the bidder's board, this paper relates returns to the acquirer's corporate governance structure. I find that individual governance variables do not distinguish poor from good acquirers in univariate tests, but document a significant association between the bidder's return and dimensions of corporate governance in multiple regression analysis. These results illustrate the importance of a coordinated approach to governance improvement as emphasized by Agrawal and Knoeber (1996).

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Finally, I am thankful to the LORD for His unfailing mercy and loving kindness. He has surely not dealt with me as I deserved. Your steadfast love, O LORD, extends to the heavens and your compassions fail not. They are new every morning. Great is your faithfulness!

Olubunmi Faleye

October 15, 2001

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CHAPTER 1

INTRODUCTION

The public corporation is one of the most important social inventions of all time. In many industrialized economies, a significant proportion of all output is produced by businesses organized as corporations. Fama and Jensen (1983) attribute this success to the distinct characteristics of the corporation which enable the delivery of goods and services at the lowest prices while covering costs. At the heart of these characteristics is the separation of decision making and risk bearing functions which facilitates specialized management and efficient individual portfolio diversification while reducing coordination and monitoring costs.

At the same time, however, the pivotal factor that accounts for the corporation's success creates an important problem, namely, the potential for a divergence of interests between decision agents and risk-bearing residual claimants. Berle and Means (1932) are among the first to examine issues relating to the operations of the modern corporation from this perspective. They distinguish three functions in an enterprise - that of having interest in it, that of having power over it, and that of acting with respect to it - and note that in the public corporation, the first two functions are performed largely by owners (shareholders) while the third is performed by a separate group, managers, as agents of the shareholders. Given that managers are self-interested utility maximizers, there is always the possibility that managerial actions are taken to provide managers with the greatest personal benefits while possibly hurting the interest of shareholders. This conflict of interest is referred to as the agency problem.

Following Berle and Means (1932), several authors have studied the nature and implications of the agency problem. They discuss issues that arise when owners are different from managers and seek ways through which the interests of the two groups can be more closely aligned. Important papers include Alchian and Demsetz (1970), Jensen and Meckling (1976), Fama (1980), and Fama and Jensen (1983).

This dissertation addresses three issues having their roots in the agency problem literature. In the first part, I examine the effectiveness of the proxy contest as a corporate control tool in containing the agency problems of excessive corporate cash holding. Jensen (1986) defines free cash flow as cash flow in excess of what is needed to finance all positive net present value projects and argues that the disposition of corporate free cash creates room for important agency problems between management and shareholders.

While the takeover market is often suggested as ideal for containing this problem, Harford (1999) and Pinkowitz (1999) document contradictory evidence. Both authors find that the likelihood of a firm becoming a takeover target is negatively related to the holding of excess cash. The first part of this dissertation focuses on the takeover-deterrence effects of corporate liquidity and suggests reasons why a proxy fight conducted independently of an acquisition bid is appropriate for monitoring and disciplining excessively liquid firms. I investigate my hypothesis using a sample of 92 proxy fights involving non-financial firms between 1989 and 1998.

I find that the occurrence of a proxy contest is significantly positively related to corporate excess liquidity and that this relationship depends on whether or not a takeover bid accompanies the proxy fight. Excess cash plays no role in contests occurring jointly

with hostile acquisition bids. For stand-alone contests, however, the relationship is strongly positive; target firms hold 57% more cash than non-targets, and a firm moving from the first to the third quartile of excess cash holdings increases the odds of a proxy contest by 94.4%. Similarly, the abnormal return accompanying a proxy fight announcement is significantly positively related to excess cash holdings with the third quartile excess cash firm earning more than double the abnormal return earned by the first quartile firm. Following a contest, executive turnover and special cash distribution to shareholders increase while cash holdings revert to normal levels.

In the second essay, I study how corporate governance might differ in firms with a significant labor equity ownership. Employee equity participation is often suggested as a means of reducing the agency problems between labor and outside shareholders. This is because an ownership stake may motivate employees toward higher productivity through increased individual performance and better peer monitoring while enhancing labor's ability to monitor the decisions and strategies of management to ensure value maximization.

However, with labor's ownership stake comes the opportunity for employees to significantly influence corporate policies through their participation in electing, and sometimes nominating, members of the board of directors. While several studies have examined the incentive and corporate control implications of labor ownership, the governance aspect has received almost no attention.

I focus on the long-term stable state effects of a significant labor voice in corporate governance on investment policy, corporate risk-taking, corporate growth,

shareholder value creation, and labor and total factor productivity. My test sample consists of 211 firms in which employees acquired voting control of at least 5% of outstanding shares between 1981 and 1990. I proceed with my empirical analysis in two stages. First, I compare the test firms with a group of size and industry matched control firms using univariate tests. Next, I estimate regressions comparing these firms to all other companies in the COMPUSTAT panel over 1994 to 1998 while controlling for size and industry factors as well as any residual effects of prior financial circumstances that might have contributed to labor's acquisition of a voting interest.

My results cast a shadow of doubt on the simple premise that labor equity participation is associated with a convergence of interests between workers and shareholders and suggest that the increased governance role acquired by labor following an ownership stake allows employees to influence corporate policies in ways beneficial to their narrow interests. Firms with significant labor control under-invest, spend less on firm-specific assets, and are more likely to invest in less-risky assets. They also grow at a lower rate and curtail employment. These results are consistent with Jensen and Meckling's (1979) argument that labor ownership distorts the firm's objective function by shifting emphasis from shareholder wealth maximization to maximizing the wealth of current employees. Moreover, labor and total factor productivity are lower in the test firms. In all, my findings are consistent with the argument that extending residual claims to the generality of employees is not an efficient way to reduce the agency problem of separation of ownership and control.

The final essay examines the role of corporate governance in containing possible agency problems in acquisition attempts by relating the bidding firm's returns to the

structure, composition, and monitoring activities of its board of directors. Byrd and Hickman (1992) and Subrahmanyam, Rangan, and Rosenstein (1997) both show that acquisition returns are significantly related to the proportion of independent directors on the board. This dissertation extends their work by considering other important dimensions of corporate governance including the leadership structure of the board, CEO age, tenure, and membership on outside boards, CEO and board stock ownership, and the degree and quality of board monitoring.

I find that individual governance variables do not distinguish poor from good acquirers in univariate tests, but document a significant association between the bidder's return and corporate governance dimensions in multiple regression analysis. Specifically, long-serving CEOs and those with several years of employment left with the firm make better acquisition decisions. Similarly, outsider-dominated and smaller boards earn higher announcement period returns. These results suggest that focusing on individual aspects of corporate governance may not yield desired enhancements in firm performance. A more concerted approach to improving governance is required.

References

Alchian, A., Demsetz, H., 1972. Production, information costs, and economic organizations. American Economic Review 52, 777-795.

Berle, A. A., Jr., Means, G. C., 1932. The modern corporation and private property (Macmillan, New York).

Byrd, J. W., Hickman, K. A., 1992. Do outside directors monitor managers? Evidence from tender offer bids. Journal of Financial Economics 32, 195-221.

Fama, E., 1980. Agency problems and the theory of the firm. Journal of Political Economy 88, 288-307.

Fama, E., Jensen, M. C. 1983. Separation of ownership and control. Journal of Law and Economics 26, 301-325.

Harford, J., 1999. Corporate cash reserves and acquisitions. Journal of Finance 54, 1969-1997.

Jensen, M. C., Meckling, W., 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics 3, 305-360.

Jensen, M. C., Meckling W., 1979. Rights and production functions: An application to labor-managed firms and codetermination. Journal of Business 52, 469-506.

Pinkowitz, L., 1999. The determinants of hostile takeovers and the efficiency of the market for corporate control. Ph.D. dissertation, Ohio State University, Columbus, OH.

Subrahmanyam, V., Rangan, N., Rosenstein, S., 1997. The role of outside directors in bank acquisitions. Financial Management 26, 23-36.

CHAPTER 2

CASH AND CORPORATE CONTROL

2.1. Introduction

Quite often, the takeover market is suggested as ideal for containing the agency problems of corporate free cash flow. Contrary to this, however, Harford (1999) and Pinkowitz (1999) both find that the likelihood of a firm becoming a takeover target is negatively related to the holding of excess cash. Pinkowitz further shows that, after a firm becomes an acquisition target, the holding of excess cash significantly reduces the probability of being successfully acquired and does not lead to higher bid premiums. Thus, the takeover market fails to mitigate the excess liquidity problem.

This failure could be explained in terms of the takeover-deterrence effects of corporate liquidity. Excess cash enhances the ability of a hostile target to defend itself against an unwanted bid. Such defenses include repurchasing stock, acquiring a competitor of the bidder and filing private antitrust litigation, or turning around to acquire the suitor itself (Bagwell, 1991; Stulz, 1988; Dann and DeAngelo, 1988). In addition, excess cash increases the bidder's uncertainty about the value of the target since it can be used to engage in bidder-specific negative net present value activities. Thus, holding excess cash may serve as a deterrent to would-be bidders.

In this paper, I focus on the takeover-deterrence effects of excess cash and suggest the proxy contest as an effective control mechanism for addressing the agency problems of excessive corporate liquidity. As in a hostile takeover situation, management will

employ all available defenses in a proxy contest. Nevertheless, I argue that dissident shareholders conducting a proxy fight independently of a takeover bid are not encumbered by the considerations that may deter a hostile bidder, including a stock repurchase, the legal or regulatory implications of the proposed acquisition, and the possibility of a reverse bid. For this reason, I hypothesize that cash-rich firms are more likely to be targeted in freestanding proxy fights, that is, contests occurring without a takeover bid.[1]

Consistent with my hypothesis, I find that the probability of a proxy contest is significantly positively related to the holding of excess cash and that this relationship is dependent on whether or not a takeover bid accompanies the proxy fight. Excess cash plays no role in contests occurring jointly with hostile bids. For stand-alone contests, however, the relationship is strongly positive; target firms hold 57% more cash than non-targets, and a firm moving from the first to the third quartile of excess cash holdings increases the odds in favor of a proxy contest by 94.4%. These results are not sensitive to the manner in which excess cash is measured or alternative specifications of the control group.

I also find evidence that investors anticipate more efficient cash management following a proxy fight in that the abnormal return accompanying a proxy fight announcement is significantly positively related to excess cash holdings. Post-contest operating changes suggest investors' expectations are realized. Following a contest,

[1] Anecdotal evidence suggests that firms are targeted in proxy contests on account of their holding too much cash. Examples include the well-known Kerkorian vs. Chrysler contest, as well as others such as Dickstein Partners vs. Hills Stores in 1994, and Relational Investors vs. Storage Technology in 1997.

executive turnover and special cash distribution to shareholders increase while cash holdings revert to normal levels.

This paper contributes to the free cash flow and proxy fight literature by providing evidence on the effectiveness of external control in containing the excess liquidity problem and the specific manner in which excess cash is eliminated. In addition, it documents systematic evidence on the role of specific agency issues in influencing the occurrence of a proxy fight. When dissidents wage a proxy contest, they are not just concerned about the overall picture (as reflected in, say, stock performance or earnings) but also about particular issues relating to management's control of the firm. Finally, it provides additional evidence on the efficiency of the corporation in terms of its ability to flourish without recourse to exogenous influences. Although management is largely free to act without interference from shareholders and is able to employ various devices to protect its interests, the extent to which it can engage in non-value-enhancing activities is limited by control mechanisms such as the proxy contest. Ultimately, the power to determine the utilization of corporate resources resides with the shareholders.

The remainder of the paper is organized as follows. In the next section, I review the literature on the agency issues arising from excess liquidity, the corporate control implications of these issues, and my motivation for this study. I describe my measure of excess liquidity in Section 2.3 while sample selection procedures and the resulting sample are discussed in Section 2.4. Section 2.5 contains my empirical analysis and discussion. Section 2.6 concludes with a brief summary.

2.2. Excess Liquidity as an Agency Problem

In his 1986 seminal paper, Michael Jensen laid out the agency issues raised by excess liquidity. He defined free cash flow as cash flow in excess of what is needed to finance all positive net present value projects. By definition, such cash flow should be paid out to the firm's shareholders since the corporation cannot invest it profitably on their behalf. In an agency-free world where managers own the firm 100%, this would be the outcome, that is, an owner-manager will pay out free cash either directly or indirectly through the consumption of perquisites. The modern corporation, however, is characterized by separation of ownership and management, with the attendant possibility of a conflict of interest in the utilization of cash. Paying out excess cash reduces the resources under management's control, restricts management's ability to pursue corporate growth as an objective, and increases the probability of raising funds externally to finance future projects. These are things management would rather avoid. Thus, self-interested utility maximizing managers would prefer to retain excess liquidity.

Consistent with the free cash flow hypothesis, Lang, Stulz, and Walkling (1991) find that bidder returns in tender offers are negatively related to cash flow for firms with poor investment opportunities as measured by Tobin's q ratio. Similarly, Harford (1999) documents that cash-rich firms are more likely to attempt acquisitions and that such acquisitions are value destroying. He estimates that cash-rich bidders destroy seven cents in value for every excess dollar of cash reserves held, they are more likely to make diversifying acquisitions, and their targets are less likely to attract other bidders.

Jensen and Meckling (1976) suggest that management could engage in bonding activities that eliminate or reduce the potential for agency conflicts. In the context of the excess liquidity problem, such activities include substituting debt and other fixed claims such as preferred equity for common equity (Masulis, 1980; Copeland and Lee, 1991; Gupta and Rosenthal, 1991), increasing payout to shareholders through a stock repurchase or special dividends (Vermaelen, 1981; Nohel and Tarhan, 1998) or taking the firm private in a leveraged buyout (Lehn and Poulsen, 1989; Opler and Titman, 1993). The abnormal return accompanying these transactions suggest that investors recognize the potential for agency problems in the utilization of cash and reward firms whose managers take appropriate actions to minimize such problems. In spite of this, Jensen (1993) documents that management is often reluctant to make changes. In such instances as this, where the internal control system is unwilling or unable to address agency-related issues, the corporate form relies on external control mechanisms to redirect management towards optimal behavior or otherwise replace the incumbent team.

A commonly suggested mechanism is the takeover market. Jensen (1986, p. 328) argues that the free cash flow theory "predicts value increasing takeovers occur in response to breakdowns of internal control processes in firms with substantial free cash flow". Similarly, Pinkowitz (1999, pp. 10-11) highlights several quotes from industry publications suggesting cash-rich firms should be disciplined by the takeover market. However, recent evidence suggests this is not the case.

Pinkowitz (1999) examines the role of the takeover market in monitoring firms with excess cash and finds that the probability of receiving a hostile bid is negatively related to the holding of excess cash, even for firms with poor investment opportunities.

On average, firms that were not targeted hold about 40% more cash than those that were, and a firm moving from the first to the third quartile of cash holdings decreases the probability of a bid by about 18%. In addition, after a firm becomes an acquisition target, the holding of excess cash significantly reduces the likelihood of being successfully acquired and does not lead to higher bid premiums. Harford (1999) performs a similar analysis with similar results.

There are several reasons why the market for corporate control might fail with respect to firms with free cash. Excess cash provides a corporation with many anti-takeover defense options that may otherwise be unavailable. One of such options is to repurchase stock. This reduces the possibility of a successful acquisition in several ways. Harris and Raviv (1988) and Stulz (1988) both argue that a stock repurchase could be used to disproportionately concentrate voting power in management and other friendly hands by buying stock from non-affiliated shareholders, an argument corroborated by empirical evidence reported by Denis (1990) that average managerial ownership increases by 89.6% following stock repurchases implemented in the presence of hostile takeover activity. Similarly, Dann and DeAngelo (1988) document evidence suggesting that stock repurchases are motivated by incumbent managers' attempts at increasing their proportional voting control of the firm.

In addition to concentrating ownership in friendly hands, a stock repurchase could significantly increase the cost to a hostile bidder. If it is assumed that investors with the lowest valuations tender first in a repurchase, then the bidder would have to acquire shares from investors with higher reservation values, thus incurring higher costs. These arguments are formalized in Bagwell (1991) who shows that in the presence of

heterogeneous investor valuations, a share repurchase increases the cost of a takeover by altering the marginal shareholder. Bagwell (1992) subsequently provides empirical evidence from individual shareholder tendering behavior in Dutch auction repurchases which supports the argument that firms face upward-sloping supply curves when they repurchase shares in a Dutch auction. Finally, a repurchase could deter a hostile bidder if the bidder's primary reason for making a bid is to acquire the liquid resources of the target since it represents a cash distribution and thus reduces the target's attractiveness.

Prior empirical work supports the deterrence effects of the stock repurchase. In a study of defensive changes in asset and ownership structure, Dann and DeAngelo (1988) find that the bidder failed to acquire control of the target in all eight cases where the target repurchased shares as part of its defensive maneuvers. Similarly, Denis (1990) reports that only seven out of 26 firms which implemented a tender offer or open-market repurchase in response to a hostile bid were eventually acquired. In fact, the stock repurchase is so often associated with anti-takeover motives that firms implementing one for different reasons frequently have to explicitly mention this in their public statements (Bagwell, 1991). While it is possible for any firm to undertake a repurchase by borrowing funds, it is clear that a cash-rich target is more able to defend itself in this manner since it has free cash and does not have to worry about the readiness of the capital markets to provide funds. Besides, Harris and Raviv (1988) argue that a repurchase financed by taking on additional debt reduces the benefits of control to incumbent management by increasing the probability of bankruptcy and through restrictions imposed by debt covenants.

Dann and DeAngelo (1988) show that the target of a hostile bid could also defend itself by acquiring a competitor of the bidder. This has the potential to deter a bidder since the target could then file a private antitrust litigation claiming that allowing the bidder to acquire it would hurt consumers by eliminating or reducing competition. In this way, the target hopes that the courts would prevent the bidder from succeeding with the acquisition bid.

Apart from repurchasing its own stock and creating antitrust complications, a cash-rich target could also make a reverse bid for an unwanted suitor. If managers attach a non-trivial probability to the success of such a reverse bid and it is assumed that managers do not like to lose their jobs, then this possibility may serve as a deterrent against making a hostile bid for a cash-rich target.

In view of the many ways in which a target's excess liquidity could be used to frustrate a hostile bid, it is not surprising that Harford (1999) and Pinkowitz (1999) find cash holdings to be a deterrent for unwanted bids. This leaves open the question of which control mechanisms discipline this class of firms. Pinkowitz (1999, p. 16) concludes that "if the takeover market is unable to prevent managers from holding large amounts of cash, there may be no effective device (short of ex ante contracting) which serves as a check on corporate cash holdings." However, we do not observe such ex ante contracting in practice.

In this paper, I postulate that the proxy contest is ideal for addressing the agency problems of excess cash. Agency theory suggests important roles for the proxy fight as a corporate control device. Alchian and Demsetz (1972, p. 788) argue that "the transfer of

proxies enhances the probability of decisive action in the event current stockholders or any outsider believes that management is not doing a good job with the corporation." Consonant with this, several empirical studies find shareholder wealth increases at the announcement of a proxy fight (see, for example, Dodd and Warner, 1983; DeAngelo and DeAngelo, 1989; Mulherin and Poulsen, 1998) and that managerial turnover and corporate restructuring activities are more likely in firms targeted in a proxy contest (Mulherin and Poulsen, 1998).

By definition, a proxy fight is a hostile control activity. This implies that management will deploy all available defenses when faced with a proxy contest. However, there are several reasons we might expect excess cash firms to be targeted in proxy contests. These reasons revolve around the fact that the extra defenses a cash-rich firm may employ against a hostile bidder are largely ineffective against dissident shareholders waging a proxy fight. Consider the tactic of repurchasing stock. While this may deter unwanted acquisition bids, it may actually encourage a proxy contest. This is because dissident shareholders interested in getting management to pay out cash rather than invest it poorly would be satisfied to see management repurchase stock in response to a proxy fight.[2] Indeed, dissidents often demand a stock repurchase when their main complaint against incumbent management is excessive corporate liquidity.[3] However, if

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[2] A stock repurchase undertaken in response to a takeover threat also accomplishes the purpose of disgorging excess cash. However, management would only repurchase if it considers the threat credible, for instance if the bidder has secured financing and/or made an offer to the target's shareholders. From the dissidents' point of view, it is more difficult and expensive to make a credible takeover threat than it is to threaten a proxy fight. Thus, dissidents would prefer a proxy fight.

[3] Examples of contests in which dissidents explicitly demanded a stock repurchase include Tiger Management Group vs. Cleveland-Cliffs, 1991, Dickstein Partners vs. Hills Stores, 1994, and Relational Investors vs. Storage Technology, 1997.

dissidents intend to make a bid for the firm, then a repurchase may serve as a deterrent for reasons earlier discussed.

Similarly, the threat of antitrust litigation or a reverse bid cannot discourage dissidents seeking control via a proxy fight unless they are also interested in actually acquiring the firm. The fact that most proxy contests, especially those not accompanied by a takeover bid, are initiated by individuals or institutional investors particularly makes these threats meaningless. Thus, we would expect firms with excess liquidity to be targeted in proxy contests. Such contests should, however, occur independently of a hostile takeover bid.

2.2.1. Other control variables

Since a proxy fight is a contest for control between incumbent management and a dissident shareholder group, several factors apart from excess liquidity could play significant roles in determining whether a firm becomes a target in such a contest. One of such factors is managerial ownership. The probability of a dissident group attaining seats on a company's board is decreasing in the proportion of shares controlled by management. Indeed, if management controls 50% or more of the firm's voting power and directors are not elected through cumulative voting, dissidents are guaranteed to fail and no proxy contests would occur. Besides, higher managerial ownership reduces the room for severe agency problems that may be addressed via a proxy fight. Thus, firms with high managerial ownership should be less likely to become targets in proxy contests. Similarly, assuming employees are more likely to vote for current management in a

contest, the probability of a proxy fight should be decreasing in the proportion of shares owned or controlled by employees.

A proxy solicitation involves substantial expenditures in communicating with and persuading shareholders. If ownership is concentrated in a few hands, this would reduce the cost of communicating with shareholders and make a proxy contest more affordable and less time consuming. Note that the reduction in cost brought about by the presence of blockholders is of less value to management since management uses the corporation's resources to defend itself. Hence, it is plausible that proxy contests would be more probable in firms with non-affiliated blockholders.

Poor corporate performance makes management visible as not maximizing shareholder wealth. In addition, shareholders will be less inclined to vote against incumbent management if the firm's performance is at least as good as that of its peers, for people are often reluctant to change a winning team. Thus, the likelihood of a proxy contest should be decreasing in the firm's performance.

2.3. Variable Definitions

2.3.1. Excess cash

An important consideration in studies of the free cash flow hypothesis is the measurement of excess cash. Several proxies are proposed in the literature, including cash and marketable securities normalized by total assets or sales (a stock measure) and undistributed post-tax cash flow (a flow measure). The problem with these proxies is that they do not account for differences in investment and other operational needs of different

firms. The usual way of correcting for this is to include a proxy for investment opportunities in the model testing the effect of free cash flow. A better approach would be to explicitly model the cash process. Opler, Pinkowitz, Stulz, and Williamson (1999), hereafter OPSW, provide such a model.

In the OPSW model, cash holding is a function of growth opportunities, riskiness of cash flow, access to the capital markets, and the cost of raising funds through asset sales and dividend cuts. They estimate various specifications of the model using data from 1971 to 1994 for all COMPUSTAT firms. For firm i in year t, the cash model is given by the following equation:

$$\begin{aligned} CASH_{i,t} = {} & a + b_1 MTB_{i,t} - b_2 SIZE_{i,t} + b_3 CF_{i,t} - b_4 NWC_{i,t} + b_5 CAPEX_{i,t} - \\ & b_6 LEVERAGE_{i,t} + b_7 INDSIG_{i,t} + b_8 FINDIS_{i,t} - b_9 DIVDUM_{i,t} - \\ & b_{10} REGDUM_{i,t} + \in_t \end{aligned} \qquad [1]$$

In the above equation, *CASH* is the natural log of the ratio of cash and marketable securities to assets less cash, *MTB* is market-to-book ratio, that is, book value of assets less the book value of equity plus the market value of equity divided by assets, *SIZE* is the natural log of assets in 1994 dollars, *CF* is the ratio of cash flow to assets less cash, *NWC* is the ratio of net working capital (net of cash) to assets less cash, *CAPEX* is the ratio of capital expenditures to assets less cash, *LEVERAGE* is total debt over total assets, *INDSIG* is the mean of standard deviations of cash flow over assets over 20 years for firms in the same industry as defined by 2-digit SIC code, *FINDIS* is the ratio of R&D expenditures to sales, *DIVDUM* is a binary variable set to one if the firm paid a dividend in the year, and zero if it did not, and *REGDUM* is a dummy variable which equals one if the firm is in a regulated industry for the year and zero if it is not.

Since OPSW estimated their model over all COMPUSTAT firms and 77% of my firm years are included in their sample, I measure excess cash as residuals of the OPSW model using coefficients from the Fama-MacBeth specification reported in their Table 4. Nevertheless, I repeat all analysis using residuals from my estimation of the model. Results are remarkably similar to the ones obtained with the first measure and therefore are not reported. I also experiment with several other specifications reported in Tables 4 and 5 of OPSW with results similar to those obtained with the Fama-MacBeth specification. To conserve space, I do not report results based on the other specifications.

2.3.2. Equity ownership

I define three equity ownership variables: managerial ownership, employee ownership, and outside block ownership. Managerial ownership is the proportion of outstanding shares controlled by management, either directly or indirectly, as reported in the proxy filing immediately before the proxy contest. Employee ownership is the proportion of outstanding shares voted by employees through any form of employee ownership plan as reported in the proxy filing immediately before the proxy contest or in the *Wall Street Journal*. My measure of outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders (excluding the dissident group) holding at least 5% of total shares as reported in the proxy statement immediately preceding the contest.

2.3.3. Pre-contest performance

I measure pre-contest performance using two stock return proxies. The first (unadjusted return) is one-year return estimated from 15 months to three months before

the proxy contest announcement date. The second is market-adjusted return, which is unadjusted return less same-period return on CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ stocks.

DeAngelo (1988) documents that for a sample of 86 proxy contests conducted between 1970 and 1983, dissident shareholders usually cite poor earnings rather than stock price performance and that target companies' pre-contest earnings are significantly below the market. Perhaps due to a shift in investor sophistication arising because of differences in sample period, stock price issues constitute a more frequent performance complaint than earnings in my sample. For this reason, I employ the stock return proxies defined above. As a robustness check, I repeat all analysis using earnings rather than stock return as the measure of performance. Results are similar to those obtained with stock return and are therefore not reported.

2.4. Sampling and Data

I searched the *Wall Street Journal Index* from January 1989 to December 1998 for proxy contest information. My search yielded 109 proxy contests involving non-financial firms. I exclude financial firms because their cash holdings may be subject to non-economic influences such as government regulation. Seven firms were involved in proxy contests in two successive years. For these firms, I exclude the second proxy contest from my sample, leaving 102 contests. Nine firms do not have enough data to allow computation of excess cash and are excluded. Furthermore, one firm has extreme excess cash value and is also excluded. The final test sample thus consists of 92 proxy contests.

Of these, 36 contests were accompanied by hostile takeover bids while 56 were plain proxy contests. I select four control firms for each test firm. The control firms are firms in the same four-digit SIC code nearest to the test firm in total assets in the year before the proxy contest. If enough control firms could not be found in four-digit SIC, I select three-digit SIC firms. Generally, two of the control firms are smaller than the test firm while the other two are larger.

The proportion of proxy fights not accompanied by hostile bids in my sample (61%) is comparable to that reported in earlier studies. For example, Mulherin and Poulsen (1998) report that for their full sample covering 1979 to 1994, 57% of contests occurred independently of an acquisition bid. However, for the sub-sample of contests occurring between 1990 and 1994, a period that overlaps my sample years, the proportion is 62%, about the same as the one in the current study.

The sample includes firms from 34 two-digit SIC industry groups. For the full sample of test firms, median assets in 1994 dollars is $365.63 million while median liquid resources, also in 1994 dollars, is $27.28 million. Median cash-to-assets ratio is 6.98%. Corresponding figures are $312.88 million, $26.38 million, and 8.16%, respectively for the 56 firms targeted in plain contests, and $551.15 million, $28.30 million, and 2.85%, respectively for the 36 firms targeted in a proxy fight – takeover bid combination. The median cash-to-assets ratio for the full sample is 34% higher than for the control firms, suggesting that target firms are more liquid than non-targets. This difference, however, is dependent on whether or not a takeover bid accompanies the proxy contest. Median cash-to-assets ratio for test firms in the plain contest sub-sample is 57% higher than for

the control group. In contrast, median cash-to-assets ratio for firms targeted in combined hostile bid/proxy contest is actually lower than for the control group.

A summary of the reasons given by dissident shareholders for waging a proxy fight is presented in Table 2.1.[4] The most common criticism of incumbent management is poor corporate performance, advanced in 53.57% of all cases. In 25% of contests, dissidents seek one form of corporate restructuring or the other. Such restructuring includes divestiture of non-core business divisions, break-ups, and leverage reduction. Outright sale of the business is sought in 21.43% of the contests. Cash related issues are raised in 14.29% of the cases, with dissidents seeking stock repurchases, dividend increases, or to block undesirable acquisitions.

2.5. Empirical Analysis, Results, and Discussion

2.5.1. Excess cash and the probability of a proxy fight

As a first step in investigating the relationship between cash holdings and the occurrence of a proxy fight, I examine the distributions of excess cash and the other explanatory variables for the test and control firms. Summary statistics from these distributions are shown in Table 2.2. For the full sample, average excess cash for test firms is 0.207 while the median is 0.320. On the other hand, mean and median values for control firms are -0.053 and -0.005, respectively. This suggests that the test firms have higher levels of excess cash. However, the Wilcoxon and t- tests indicate that the

[4] Percentages reported in Table 2.1 are for the plain contest sub-sample. For the firms involved in combined hostile bid and proxy fights, the usual purpose of the contest is to oust the opposing board so as to turn the hostile bid into a friendly transaction.

difference is not significant at conventional levels, with p-values of 0.16 and 0.18, respectively.

More interesting information is revealed in panels B and C. In panel B, I report statistics from the distribution of excess cash for firms targeted in a stand-alone proxy fight. The test firms in this sub-sample have an average excess cash of 0.539 compared to 0.069 for the control firms. Similarly, median excess cash is 0.690 for test firms and 0.119 for control firms. The Wilcoxon and t- tests confirm the differences to be significant, each at less than the 10% level. On the other hand, panel C shows no significant difference in excess cash between test and control firms for the combined contest sub-sample. For instance, while average excess cash for the test firms is -0.310, the corresponding figure for the control firms is -0.248. Median values are -0.514 and -0.267 for test and control firms, respectively. P-values for the Wilcoxon and t- tests are 0.74 and 0.83, respectively.

Results of further univariate tests are presented in Table 2.3. For each test firm, I subtract the mean of the values for the control group from the value for the test firm. The mean and median of adjusted variables are shown in Table 2.3, together with p-values for the null hypothesis that the statistics are not significantly different from zero. The tests confirm the pattern revealed in Table 2.2. For the full sample, average control group adjusted excess cash is positive but insignificant, with a p-value of 0.18. Moreover, for those firms whose proxy contests are accompanied by takeover bids, average adjusted excess cash is not statistically different from zero. This contrasts sharply with firms targeted in plain proxy fights. Mean and median adjusted excess cash for these firms are 0.465 and 0.497, respectively. Both are significant at less than the 5% level. Thus, these

firms have higher levels of excess liquidity than similar firms in the same industry not targeted in a proxy fight. These results are consistent with my hypothesis that firms with excess liquidity will only be targeted in freestanding proxy contests. Also consistent with my hypothesis, Tables 2.2 and 2.3 show that test firms have lower managerial ownership, higher outside block ownership, and underperform the market in terms of stock return.

I subsequently estimate multinomial logit models to determine the effect of excess liquidity on the probability of a proxy fight in a multivariate setting. In each model, the dependent variable is a dummy variable which equals zero for control firms, one for target firms involved in a stand-alone contest, and two for target firms involved in a combined proxy fight, takeover bid. Since the control group consists of size and industry matched firms, I estimate all regressions using conditional logits. Each regression also includes year dummies as additional explanatory variables, although the coefficients for these dummies are not reported. Results are presented in Table 2.4.

In order to facilitate easy reading, I reorganize the multinomial logit results into separate equations for target firms involved in a stand-alone proxy fight and those involved in a contest with takeover bid. The reference category for each equation consists of the control firms, that is, firms not involved in any proxy contest. Consistent with my hypothesis and in agreement with the univariate results, the coefficient of excess cash in the first equation for stand-alone contests (Panel A of Table 2.4) is positive and significant at the 1% level while it is not significantly different from zero in the corresponding equation for targets of a combined proxy fight and takeover bid as shown in the second panel of the table. The second equation in Panels A and B of Table 2.4

includes ownership and performance variables as additional control terms. Nevertheless, the results are similar to those in the first equation.

I also examine odd ratios to provide an insight into the economic significance of the role of excess cash in the occurrence of a proxy contest. In Table 2.4 (Model II of Panel A), the estimated odd ratio for excess cash is 1.425. Thus, holding all else constant, a one unit increase in excess cash increases the odds of a proxy fight by 42.5%. Now consider that a movement from the first quartile of excess cash to the third quartile represents an increase of 2.22 units. This implies that a firm moving from the first to the third quartile of the distribution of excess cash increases the odds of a proxy contest by 94.4%. A greater part of this increase is attributable to the movement from the first quartile to the median, which represents a movement from negative to positive excess cash. For a firm moving from the first quartile to the median, the odds of a contest increases by 51.3%, compared to an increase of 43.0% for a firm moving from the median to the third quartile of cash holdings. These results complement those reported earlier and confirm that excess liquidity plays a significant role in the determination of who becomes a proxy contest target.

2.5.1.1 Sensitivity and robustness check

Results presented so far illustrate the important role played by excessive corporate cash holdings in the proxy contest process. However, it is possible that these results are dependent on the measure of excess cash, namely, residuals of the Fama-MacBeth specification of the OPSW cash model. Thus, it is important to investigate the sensitivity of the results to changes in the measure of excess cash. My initial attempt at robustness

check involves utilizing other specifications of the OPSW model. As stated earlier, results obtained with these specifications are similar to those reported for the Fama-MacBeth specification and are not presented here. Nevertheless, since these specifications relate to the same base model, I also examine alternative measures of corporate cash holdings that are not related to the OPSW model.

As a starting point, I estimate conditional logit regressions relating the probability of a proxy contest to cash holdings (as measured by the ratio of cash and marketable securities to total assets) and the standard control variables. I include market-to-book ratio as an additional explanatory variable to control for cross-sectional differences in investment opportunities. Smith and Watts (1992), Opler et al. (1999), and Harford (1999) are among prior studies that employ the market-to-book ratio as a proxy for investment opportunities. Likewise, I include leverage ratio (total debt to total assets) to control for differences in debt usage and thus ensure that my findings reflect the effect of net cash holdings. The results, which are presented in Table 2.5, are very similar to those obtained with the OPSW model.

As a further robustness check, I estimate another set of regressions in which the measure of excess cash is the residual from an alternative model of normal cash holdings proposed by Harford (1999). In Harford's model, corporate cash holding is a function of firm size, investment opportunities, cash flow volatility, future cash flows, industry characteristics, and general economic conditions. For firm i in year t, the model is given by the following equation:

$$CASH_{i,t} = a_i + b_1 NETCFO_{i,t} + b_2 \Delta RISKPRE_{t+1} + b_3 RECESSION_t + b_4 \Delta NETCFO_{i,t+1} + b_5 \Delta NETCFO_{i,t+2} + b_6 MTB_{i,t-1} + b_7 CFOVOL_i + b_8 SIZE_{i,t-1} + \epsilon_{i,t} \quad [2]$$

In equation (2), *CASH* is the ratio of cash and marketable securities to net sales, *NETCFO* is operating income before depreciation less interest less taxes less the change in non-cash working capital less investment outlays, normalized by net sales, *RECESSION* is a dummy variable set equal to one for years within recessions as defined by the National Bureau of Economic Research and zero for others, *RISKPRE* is the difference between junk and AAA bond yields, *MTB* is market-to-book ratio, *CFOVOL* is coefficient of variation of operating cash flow, and *SIZE* is the natural logarithm of total assets.

Since my sample is cross-sectional, I estimate equation (2) with the modification that I do not include firm-specific fixed effects (denoted by the subscript on the intercept term) in the regression while including industry dummies to control for variations in cash holdings across industry groups.[5] Fifty-one test and 207 control firms have sufficient data to allow estimation of the model.[6] Table 2.6 contains results of logistic regressions relating the probability of a proxy contest to excess cash as measured by residuals from this model. The regressions are analogous to those reported in Table 2.4. In each specification, I obtain the same pattern of coefficients and significance as in Table 2.4. Thus, the findings are not sensitive to the measure of excess cash.

[5] In Harford's original estimation, industry effects are controlled for by estimating a separate regression for each industry group. Due to a relatively small sample size, this approach is not feasible with my data.

[6] Several firms were lost because they do not satisfy the model's data requirements for calculating operating cash flow or because of the need to include future cash flows in the model.

In addition to the foregoing, I examine the sensitivity of the results to changes in the specification of control firms by estimating three sets of regressions using different subsets of the control firms. The first set of regressions uses the control firm that is nearest in size to the test firm. This is defined as the control firm whose assets are within ±40% of the total assets of the corresponding test firm in the year before the proxy fight. The second set uses control firms that are smaller, while the third uses control firms that are larger, in size than the respective test firm. Results of these regressions are presented in Tables 2.7, 2.8, and 2.9, respectively, and are very similar to those reported in Table 2.4 for the full sample of control firms. Thus, the findings do not appear to be sensitive to the specification of the control sample.

2.5.2. Excess cash and proxy contest announcement return

The preceding section documents a significant association between excessive corporate liquidity and the occurrence of a proxy fight. In this section, I consider the effectiveness of the proxy contest in reducing financial slack by examining the relationship between excess cash holdings and the abnormal return accompanying a proxy fight announcement. In an efficient market, if the proxy fight is indeed effective in alleviating the agency problems of excess cash, then proxy contest announcement returns should be positively related with excess cash holdings as investors capitalize expected gains arising from a more efficient utilization of liquid resources following a proxy contest. I define the announcement date as the earliest of the date of initial dissident activity as reported in the *Wall Street Journal*, *Dow Jones News Service*, *Dow Jones Business News*, *PR Newswire*, or *Business Newswire*.

Following a standard event study methodology, I estimate the market model for each test firm over the period from 250 to 21 days prior to the announcement date and then use estimated parameters to calculate abnormal returns around contest initiation. One firm does not have sufficient data in CRSP to allow computation of abnormal returns and is not included in the following analysis. Announcement period abnormal return is defined as the three-day cumulative abnormal return (CAR) calculated over days [-1, +1] relative to the announcement date. Consistent with prior studies, average CAR for the full sample is positive and significant. Mean and median CAR are 5.18% and 1.78%, respectively. Both are significant at less than the 1% level. Moreover, when the sample is split along the line of whether a takeover bid accompanies the proxy contest or not, a pattern similar to that reported in Mulherin and Poulsen (1998) is observed; that is, average CAR is lower for the plain contest sub-sample (3.90% compared to 7.12%). This is probably because in most cases when a firm is the target of a takeover bid and a proxy contest, both control activities are often announced simultaneously. Thus, the higher abnormal returns for these firms incorporate the effect of a takeover bid.

I subsequently estimate a regression of CAR on excess cash for the plain contest sample to test whether investors anticipate more efficient cash management following a proxy contest. Indeed, the results are consistent with this hypothesis. The coefficient of excess cash is 0.015, which is significant at less than the 5% level (p-value = 0.02). The regression has an adjusted R-squared of 0.08. In terms of economic significance, a movement from the first to the third quartile of excess cash more than doubles the cumulative abnormal return, from 2.51% to 5.19%. Thus, the finding strongly suggests

that investors expect firms to make wealth-increasing changes in their cash management policies after a proxy contest.

2.5.3. Post-contest liquidity and operating changes

An important question that remains is "How does the proxy fight lead to more efficient cash management?" As a starting point, it is important to know whether excess cash is eliminated following a proxy contest. If the target firms continue to hold abnormally high levels of cash, then it is doubtful if the proxy fight is effective in dealing with this problem. To address this issue, I examine the year-after liquidity of the sample of firms involved in stand-alone contests. Of the 56 test firms, seven were acquired in a friendly deal within one year after the proxy contest. Three other firms do not have sufficient data for computing excess cash for the year after the proxy fight. Thus, the results are based on the 46 contests with sufficient data.

For the control firms, mean and median post-contest excess cash are -0.269 and -0.057, respectively. Just as in the year before the proxy contest, neither is significantly different from zero. In comparison, while average pre-contest excess cash is significantly positive for the test firms, mean and median post-contest excess cash for the same firms are -0.456 and -0.187, respectively. Both are statistically insignificant. The Wilcoxon and t- tests, with corresponding p-values of 0.99 and 0.58, confirm that the distributions of post-contest excess cash for the test and control firms are not different from each other.

Furthermore, I construct post-contest match-adjusted excess cash and test its average for statistical significance. I find that the average adjusted post-contest excess cash is not significantly different from zero. Mean and median adjusted excess cash are

-0.190 (p-value, 0.65) and -0.087 (p-value, 0.64), respectively. Recall that prior to the contest, average match-adjusted excess cash is positive and significant at less than the 5% level. Thus, the occurrence of a proxy fight in these firms is followed by the elimination of excess liquidity. These results suggest that the proxy contest is a potent mechanism in monitoring and disciplining firms with excess liquidity.

Notwithstanding the above, however, further tests are required before it could be inferred that the reduction in excess cash experienced by the test firms is related to the occurrence of a proxy fight. I accomplish this by estimating excess cash for all COMPUSTAT firms over my sample period and grouping the firms into annual deciles on the basis of their excess cash value. I then use the decile ranks to estimate conditional and unconditional excess cash transition probabilities. The conditional transition probability is the empirical probability of a firm moving from one excess cash decile during year *t-1* to another decile in year *t+1* given that the firm was the target of a proxy contest in year *t*. Unconditional transition probabilities are calculated for firms not involved in a proxy fight and represent the probability of a firm moving from one excess cash decile in year *t-1* to another in year *t+1* given that the firm was not the target of a proxy fight in year *t*.

The two sets of transition probabilities are shown in Table 2.10. The first entry in each cell (in bold typeface) is the transition probability conditioned on the occurrence of a proxy contest. Estimated unconditional transition probabilities are shown under the corresponding conditional probabilities. Now consider firms in the tenth decile of excess cash in year *t-1*, that is, entries in the last row of Table 2.10. As seen in the table, the empirical probability that such a firm targeted in a proxy contest in year *t* will remain a

tenth decile firm in year $t+1$ is 0.000, compared to a probability of 0.428 for a tenth decile firm not involved in a proxy fight. Not only this, a tenth decile proxy contest target will be in the upper half of the distribution of excess cash in the year after the contest with probability 0.667. The corresponding probability for a tenth decile firm not targeted is 0.874, higher by 31%. Similarly, the probability that post-contest excess cash for a ninth decile target will be above the median of the distribution is 0.667 while the corresponding figure for a non-target ninth decile firm is 0.830. Indeed, for all but the fifth decile firms, the conditional probability of being in the upper half of post-contest excess cash is lower than the unconditional probability. Thus, the evidence suggests a significant relationship between a reduction in excess liquidity and the occurrence of a proxy contest.

I subsequently examine the strength of this relationship by performing a χ^2 goodness of fit test using frequencies generated from the probabilities in Table 2.10. To calculate the expected frequency for a cell, I multiply the unconditional probability for that cell by the row frequency corresponding to the cell. Observed frequencies are calculated using conditional probabilities. For the full sample, the χ^2 statistic is 107.82. With 81 degrees of freedom, it has a p-value of 0.02, thus indicating that the association is statistically significant. Further analysis reveals that this is driven by firms in the sixth to the tenth decile of pre-contest excess cash. For these firms, the χ^2 statistic is 75.87 with 36 degrees of freedom. This is significant at less than the 1% level. On the other hand, the χ^2 statistic for first to fifth decile firms is 31.94, also with 36 degrees of freedom. It has a p-value of 0.66. Taken together, these results suggest that transition probabilities are significantly related to the occurrence of a proxy contest, especially for

firms more likely to suffer from the agency problems of excess cash, that is, those in the upper half of the distribution of pre-contest excess cash. Seventy percent of the test firms fall into this category.

In view of the preceding results, a natural question arises concerning the source of the reduction in liquidity since it is possible that management simply wasted the cash in fighting off dissidents. I investigate this by examining changes in the operations and top management of the sample firms in the year before and the year after the proxy contest. I search the *Wall Street Journal Index*, *Dow Jones News Service*, *Dow Jones Business News*, *PR Newswire*, and *Business Newswire* for news about each of the test and control firms in the 12 months preceding the proxy contest announcement date and the 12 months after resolution of the proxy fight. Each news item is classified into one of five categories reflecting my subjective judgment on its effect on the acquisition and disposition of liquid resources and the identity of senior management. The results are summarized in Table 2.11.

Table 2.11 reveals a significant increase in the occurrence of a forced executive turnover among the test firms in the year after the proxy contest. A forced turnover is defined as the resignation or termination of any of the chairman of the board, the chief executive officer, or the president/chief operating officer. Normal turnover, such as retirement at or above age 65, is excluded, although including it does not change the qualitative conclusions. In the year before the proxy fight, 4.10% and 10.71% of control and test firms, respectively, experienced an executive turnover. Although the turnover rate is higher for the test firms in the pre-contest period, it is possible that this is due to performance pressures arising as a result of the significantly lower returns achieved by

these firms as earlier reported. In any case, executive turnover among the test firms doubles to 21.43% in the year after the proxy fight while falling to 2.56% among the control firms. Hence, the incidence of a proxy fight is associated with a significant increase in the rate of executive turnover, a result consistent with prior work. For instance, Mulherin and Poulsen (1998) report a 60.39% executive turnover in the three years following a proxy contest not accompanied by a takeover bid. If it is assumed that turnovers are evenly spaced in the three years following a contest, this corresponds to an annual turnover rate of 20.13%, which is similar to the finding in this study. It should be noted that the occurrence of executive turnover does not depend on dissidents attaining control of the firm. Dissidents were successful in only one-third of the firms that experience an executive turnover in the post-contest period. The contest was settled in 58.33% of these firms, with some dissident representatives typically co-opted into the board. Dissidents lost the proxy fight in the remaining 8.33% of firms with forced executive turnover.

As further reported in Table 2.11, 13.33% of the control firms repurchased stock during the year before the proxy contest. In comparison, only 10.71% of test firms announced a stock repurchase over the same period. In the year following the contest, however, the proportion of test firms repurchasing stock almost doubles to 19.64% while the corresponding percentage for control firms slightly increases to 14.36%. In dollar terms, the median repurchasing test firm spent $36.61 million to repurchase stock before the proxy fight compared to $62.50 million in the post-contest period, an increase of 70.8%. In contrast, the median repurchasing control firm spent $10 million in the pre-contest period and $15 million in the year after the proxy fight, an increase of only 50%.

Thus, a proxy fight is followed by a significant increase in the incidence and extent of a stock repurchase.

Not only this, the test firms also are more likely to distribute cash to stockholders through other non-repurchase means after the proxy contest. As seen in the table, 3.57% of test firms and 1.03% of control firms announced a special dividend during the pre-contest period. In the year after the proxy fight, no control firm announced a special dividend while the corresponding percentage for the test sample increases to 5.36%. Taken together, these results suggest that the reduction in excess liquidity reported earlier is due, at least in part, to an increase in cash distribution to shareholders.

The evidence on new capital infusion reported in Table 2.11 provides additional information about the source of excess liquidity reduction. Before the proxy fight, 23.21% of the test firms received a capital infusion in the form of either a private or public issue of debt or equity securities. On the other hand, 18.97% of control firms raised capital in the year before the proxy contest. In the year following the contest, however, the proportion of firms issuing new securities fall to 10.71% for the test firms while rising to 34.87% for the control firms.

Moreover, the test firms now exhibit a stronger preference for debt securities in the post-contest period. In the year before the contest, the ratio of new debt issues to new equity issues is 1.17 and 1.47 for test and control firms, respectively. Following the contest, however, the ratio of new debt to new equity issues jumps to 5.0 for the test firms while only increasing slightly to 1.61 for the control firms. These results are consistent with Jensen's (1986) credible commitment hypothesis under which firms utilize debt as a

signal that they are committed to paying out excess cash and further confirm that a proxy contest produces operational changes that help reduce financial slack.

In summary, the results presented in this section illustrate the effectiveness of the proxy fight in addressing the excess liquidity problem. Excess cash is virtually eliminated following a proxy fight and this appears to be due to a higher top management turnover rate, an increase in special cash distribution to shareholders, a reduction in new capital infusion, and a stronger dependence on debt securities in those cases where new capital must be raised.

2.6. Summary and Conclusions

Recent work documents that excessively liquid firms are not disciplined in hostile takeovers. Since excess liquidity is the source of important agency problems discussed by Jensen (1986), these papers raise the question of which control mechanism does the job of redirecting management towards efficient utilization of cash. I focus on the special characteristics of corporate liquidity which may discourage a hostile bidder from going after cash-rich targets and hypothesize that a proxy contest conducted independently of a takeover bid is better suited to the task of disciplining firms with excess cash.

Consistent with this hypothesis, I find that the proxy fight effectively addresses excessive cash holdings and that this is so only if the contest is not accompanied by a takeover bid. The average cash-to-assets ratio for firms targeted in plain proxy fights is 57% higher than the same ratio for non-target firms. Furthermore, holding all else constant, a firm moving from the first quartile of excess cash to the third quartile increases the odds of a

proxy contest by 94.4%. Cash holdings, however, revert to normal levels after a proxy fight. This reversal is not due to a secular decline in corporate liquidity or wastages. Rather, target firms significantly increase cash distributions to shareholders and reduce new financing. These results confirm the important roles attributed to the proxy contest in agency theory and suggest that managerial or legal actions that diminish its effectiveness may be inefficient.

References

Alchian, A., Demsetz, H., 1972. Production, information costs, and economic organization. American Economic Review 62, 777-795.

Bagwell, L. S., 1991. Share repurchase and takeover deterrence. Rand Journal of Economics 22, 72-88.

Bagwell, L. S., 1992. Dutch auction repurchases: an analysis of shareholder heterogeneity. Journal of Finance 47, 71-105.

Christie, W. G., Nanda, V., 1994. Free cash flow, shareholder value, and the undistributed profits tax of 1936 and 1937. Journal of Finance 49, 1727-1754.

Copeland, T. E., Lee, W. H., 1991. Exchange offers and stock swaps – new evidence. Financial Management 20, 34-48.

Dann, L., DeAngelo, H., 1988. Corporate financial policy and corporate control: a study of defensive adjustments in asset and ownership structure. Journal of Financial Economics 20, 87-128.

DeAngelo, L. E., 1988. Managerial compensation, information costs, and corporate governance: the use of accounting performance measures in proxy contests. Journal of Accounting & Economics 10, 3-36.

Denis, D. J., 1990. Defensive changes in corporate payout policy: share repurchases and special dividends. Journal of Finance 45, 1433-1456.

Dodd, P., Warner, J. B., 1983. On corporate governance: A study of proxy contests. Journal of Financial Economics 11, 401-438.

Gupta, A., Rosenthal, L., 1991. Ownership structure, leverage, and firm value: the case of leveraged recapitalizations. Financial Management 20, 69-83.

Harford, J., 1999. Corporate cash reserves and acquisitions. Journal of Finance 54, 1969-1997.

Harris, M., Raviv, A., 1988. Corporate control contests and capital structure. Journal of Financial Economics 20, 55-86.

Jensen, M. C., 1986. The agency cost of free cash flow, corporate finance, and takeovers. American Economic Review 76, 323-329.

Jensen, M. C., 1993. The modern industrial revolution, exit, and the failure of internal control systems. Journal of Finance 48, 831-880.

Jensen, M., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. Journal of Financial Economics 3, 305-360.

Lang, L. H., Stulz, R. M., Walkling, R. A., 1991. A test of the free cash flow hypothesis: the case of bidder returns. Journal of Financial Economics 29, 315-335.

Lehn, K., Poulsen, A., 1989. Free cash flow and stockholder gains in going private transactions. Journal of Finance 44, 771-787.

Masulis, R. W., 1980. The effects of capital structure change on security prices: a study of exchange offers. Journal of Financial Economics 8, 139-178.

Mulherin, J. H., Poulsen, A., 1998. Proxy contests and corporate change: implications for shareholder wealth. Journal of Financial Economics 47, 279-313.

Nohel, T., Tarhan, V., 1998. Share repurchases and firm performance: new evidence on the agency costs of free cash flow. Journal of Financial Economics 49, 187-222.

Opler, T., Pinkowitz, L., Stulz, R., Williamson, R., 1999. The determinants and implications of corporate cash holdings. Journal of Financial Economics 52, 3-46.

Opler, T., Titman, S. 1993. The determinants of leveraged buyout activity: free cash flow vs. financial distress costs. Journal of Finance 48, 1985-1999.

Perfect, S. B., Peterson, D. R., Peterson, P. P., 1995. Self-tender offers: the effects of free cash flow, cash flow signaling, and the measurement of Tobin's q. Journal of Banking & Finance 19, 1005-1023.

Pinkowitz, L., 1999. The determinants of hostile takeovers and the efficiency of the market for corporate control. Ph.D. dissertation, Ohio State University, Columbus, OH.

Stulz, R. M., 1988. Managerial control of voting rights: financing policies and the market for corporate control. Journal of Financial Economics 20, 25-54.

Vermaelen, T., 1981. Common stock repurchases and market signalling: an empirical study. Journal of Financial Economics 9, 139-183.

Table 2.1: Dissidents' reasons for launching a proxy contest.

These are summaries from reports in the *Wall Street Journal* and/or dissidents' proxy filings and reflect only the reasons given in stand-alone proxy fights. For contests conducted together with a takeover bid, the usual reason given by dissidents for the proxy fight is to oust the opposing board and turn the takeover bid into a friendly acquisition. The percentages do not sum to unity because multiple reasons are given in some of the contests.

Reason for contest or Action sought	% of contests
Poor corporate performance	53.57%
Corporate restructuring	25.00%
Outright sale of the firm	21.43%
Cash issues	14.29%

Table 2.2: Descriptive statistics.

Excess cash is the prediction error of Opler et al.'s (1999) cash model. Managerial ownership is the proportion of outstanding voting shares controlled directly or indirectly by management. Outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders of at least 5% of outstanding shares. Outside block ownership excludes the dissidents' holding. Stock return is one-year return estimated from 15 months to 3 months prior to the proxy contest announcement date. Market-adjusted return is unadjusted return less same-period return on CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ stocks. P-values for tests of significance of excess cash are shown in parentheses under the excess cash terms. The last two columns show statistics for tests of significance of the differences in means and medians for the test and control firms. The full sample consists of 92 test and 317 control firms. The stand-alone sub-sample contains 56 test and 195 control firms while the combined contest sub-sample includes 36 test and 122 control firms.

Panel A: Full Sample Results

Variable	Mean		Median		T-test	Wilcoxon test
	Test Firms	Control Firms	Test Firms	Control Firms		
Excess Cash	0.207 (0.22)	-0.053 (0.57)	0.320 (0.25)	-0.005 (0.48)	1.3401 (0.18)	1.4020 (0.16)
Managerial Ownership	7.58	20.34	3.51	11.47	-7.9317 (0.00)	-5.0721 (0.00)
Outside block Ownership	13.23	10.71	9.65	7.59	1.7557 (0.08)	2.1792 (0.03)
Stock Return	0.061	0.168	0.036	0.114	-1.8988 (0.06)	-1.6452 (0.10)
Market-adjusted Stock Return	-0.100	0.010	-0.122	-0.026	-2.0578 (0.04)	-2.0130 (0.04)

Table 2.2 continued:

Panel B: Results for Stand-alone Contests

Variable	Mean		Median		T-test	Wilcoxon test
	Test Firms	Control Firms	Test Firms	Control Firms		
Excess Cash	0.539 (0.02)	0.069 (0.56)	0.690 (0.01)	0.119 (0.61)	1.8670 (0.06)	1.9243 (0.05)
Managerial Ownership	8.91	20.97	4.12	12.19	-5.6466 (0.00)	-3.7526 (0.00)
Outside block Ownership	12.81	10.93	9.45	7.60	0.9805 (0.33)	1.2199 (0.22)
Stock Return	0.013	0.136	-0.060	0.018	-1.3903 (0.17)	-1.4520 (0.15)
Market-adjusted Stock Return	-0.132	-0.006	-0.179	-0.092	-1.5124 (0.13)	-1.7460 (0.08)

Panel C: Results for Contests with Takeover Bids

Variable	Mean		Median		T-test	Wilcoxon test
	Test Firms	Control Firms	Test Firms	Control Firms		
Excess Cash	-0.310 (0.20)	-0.248 (0.09)	-0.514 (0.17)	-0.267 (0.06)	-0.2089 (0.83)	-0.3378 (0.74)
Managerial Ownership	5.53	19.32	1.14	9.19	-5.7703 (0.00)	-3.2666 (0.00)
Outside block Ownership	13.87	10.35	9.85	7.40	1.6502 (0.10)	1.9267 (0.05)
Stock Return	0.134	0.220	0.161	0.186	-1.2794 (0.20)	-1.0794 (0.28)
Market-adjusted Stock Return	-0.050	0.036	-0.037	0.018	-1.2157 (0.23)	-1.0502 (0.29)

Table 2.3: Univariate tests of match-adjusted variables.

Excess cash is the prediction error of Opler et al.'s (1999) cash model. Managerial ownership is the proportion of outstanding voting shares controlled directly or indirectly by management. Outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders of at least 5% of outstanding shares. Outside block ownership excludes the dissidents' holding. Stock return is one-year return estimated from 15 months to 3 months prior to the proxy contest announcement date. For each test firm, match-adjusted variables are constructed by subtracting the mean of the values for its control group from the value for the test firm. The number in parenthesis under each term is the p-value for the null hypothesis that the entry is not significantly different from zero. The full sample consists of 92 test firms, the stand-alone sample, 56 test firms, and the combined contest sample, 36 test firms.

Panel A: Full Sample Results

Variable	Mean	Median
Excess Cash	0.230 (0.18)	0.370 (0.19)
Managerial Ownership	-12.986 (0.00)	-11.937 (0.00)
Outside block Ownership	2.522 (0.07)	-0.223 (0.18)
Stock Return	-0.113 (0.02)	-0.119 (0.01)

Table 2.3 continued:

Panel B: Results for Stand-alone Contests

Variable	Mean	Median
Excess Cash	0.465 (0.04)	0.497 (0.04)
Managerial Ownership	-12.191 (0.00)	-10.659 (0.00)
Outside block Ownership	1.974 (0.29)	-0.223 (0.49)
Stock Return	-0.134 (0.07)	-0.195 (0.03)

Panel C: Results for Contests with Takeover Bids

Variable	Mean	Median
Excess Cash	-0.135 (0.63)	-0.422 (0.73)
Managerial Ownership	-14.222 (0.00)	-13.676 (0.00)
Outside block Ownership	3.373 (0.09)	0.302 (0.20)
Stock Return	-0.080 (0.16)	-0.023 (0.31)

Table 2.4: Excess cash and the probability of a proxy contest.

Excess cash is the prediction error of Opler et al.'s (1999) cash model. Managerial ownership is the proportion of outstanding voting shares controlled directly or indirectly by management. Employee ownership is the percentage of outstanding shares voted by employees through any form of employee ownership plan. Outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders of at least 5% of outstanding shares. Outside block ownership excludes the dissidents' holding. Unadjusted stock return is one-year return estimated from 15 months to 3 months prior to the proxy contest announcement date. Market-adjusted return is unadjusted return less same-period return on CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ stocks. Each model includes year dummies. In each regression, the dependent variable is a dummy variable which equals zero for control firms, one for target firms involved in a stand-alone contest, and two for target firms involved in a combined proxy fight, takeover bid. Since the sample utilizes case-control matching, the regressions are estimated using conditional logits. The results have been reorganized into separate equations for target firms involved in a stand-alone proxy fight and those involved in a contest with takeover bid to facilitate easy reading. The p-value for chi-square test of parameter significance is shown in parenthesis under each parameter estimate. The sample covers 1989 to 1998 and consists of 396 firms of which 36 are targets of a simultaneous proxy fight and takeover bid, 56 are targets of a proxy fight only, and the rest are control firms.

Variable	**A**: Stand-alone Proxy Fight Versus No Proxy Fight		**B**: Proxy Fight With Takeover Bid Versus No Proxy Fight	
	Model I	Model II	Model I	Model II
Excess Cash	0.3184 (0.01)	0.3541 (0.01)	0.0199 (0.89)	-0.0263 (0.88)
Managerial ownership		-0.0516 (0.00)		-0.0756 (0.00)
Employee ownership		-0.0119 (0.68)		-0.0435 (0.28)
Outside block ownership		-0.0037 (0.76)		0.0185 (0.35)
Market-adjusted Return		-0.1791 (0.64)		-1.2855 (0.08)
Likelihood Ratio test (P-value)	9.812 (0.04)	28.951 (0.00)	4.835 (0.89)	29.348 (0.00)

Table 2.5: Robustness check – Using raw cash holdings.

Cash is the natural logarithm of the ratio of cash and marketable securities to total assets less cash and marketable securities. Market-to-book ratio is the book value of assets less the book value of equity plus the market value of equity divided by the book value of assets. Leverage is the ratio of total debt to total assets. Managerial ownership is the proportion of outstanding voting shares controlled directly or indirectly by management. Employee ownership is the percentage of outstanding shares voted by employees through any form of employee ownership plan. Outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders of at least 5% of outstanding shares. Outside block ownership excludes the dissidents' holding. Unadjusted stock return is one-year return estimated from 15 months to 3 months prior to the proxy contest announcement date. Market-adjusted return is unadjusted return less same-period return on CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ stocks. Each model includes year dummies. In each regression, the dependent variable is a dummy variable which equals zero for control firms, one for target firms involved in a stand-alone contest, and two for target firms involved in a combined proxy fight, takeover bid. Since the sample utilizes case-control matching, the regressions are estimated using conditional logits. The results have been reorganized into separate equations for target firms involved in a stand-alone proxy fight and those involved in a contest with takeover bid to facilitate easy reading. The p-value for chi-square test of parameter significance is shown in parenthesis under each parameter estimate. The sample covers 1989 to 1998 and consists of 396 firms of which 36 are targets of a simultaneous proxy fight and takeover bid, 56 are targets of a proxy fight only, and the rest are control firms.

Variable	A: Stand-alone Proxy Fight Versus No Proxy Fight		B: Proxy Fight With Takeover Bid Versus No Proxy Fight	
	Model I	Model II	Model I	Model II
Cash	0.2746	0.2881	0.0283	-0.0141
	(0.03)	(0.05)	(0.86)	(0.94)
Market-to-Book	-0.1677	-0.1426	-0.2176	-0.2755
	(0.27)	(0.30)	(0.43)	(0.498)
Leverage	2.4322	2.3601	-0.4976	0.3162
	(0.01)	(0.03)	(0.71)	(0.85)
Managerial ownership		-0.0514		-0.0797
		(0.00)		(0.00)
Employee ownership		-0.0119		-0.0493
		(0.68)		(0.26)
Outside block ownership		-0.0060		0.0189
		(0.64)		(0.35)
Market-adjusted Return		0.0097		-1.0115
		(0.98)		(0.21)
Likelihood Ratio test (P-value)	13.421	31.626	5.534	30.009
	(0.04)	(0.00)	(0.48)	(0.00)

Table 2.6: Robustness check – Measuring excess cash using Harford's (1999) model.

Excess cash is the residual from a first-pass estimation of Harford's (1999) cash model. Managerial ownership is the proportion of outstanding voting shares controlled directly or indirectly by management. Employee ownership is the percentage of outstanding shares voted by employees through any form of employee ownership plan. Outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders of at least 5% of outstanding shares. Outside block ownership excludes the dissidents' holding. Unadjusted stock return is one-year return estimated from 15 months to 3 months prior to the proxy contest announcement date. Market-adjusted return is unadjusted return less same-period return on CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ stocks. Each model includes year dummies. In each regression, the dependent variable is a dummy variable which equals zero for control firms, one for target firms involved in a stand-alone contest, and two for target firms involved in a combined proxy fight, takeover bid. Since the sample utilizes case-control matching, the regressions are estimated using conditional logits. The results have been reorganized into separate equations for target firms involved in a stand-alone proxy fight and those involved in a contest with takeover bid to facilitate easy reading. The p-value for chi-square test of parameter significance is shown in parenthesis under each parameter estimate. The sample covers 1989 to 1998 and consists of 258 firms of which 13 are targets of a simultaneous proxy fight and takeover bid, 38 are targets of a proxy fight only, and the rest are control firms.

Variable	**A**: Stand-alone Proxy Fight Versus No Proxy Fight		**B**: Proxy Fight With Takeover Bid Versus No Proxy Fight	
	Model I	Model II	Model I	Model II
Excess Cash	2.9428 (0.07)	3.3983 (0.04)	0.0199 (0.89)	0.9205 (0.53)
Managerial ownership		-0.0350 (0.06)		-0.0469 (0.32)
Employee ownership		-0.0136 (0.69)		-0.0389 (0.54)
Outside block ownership		0.0145 (0.38)		0.0044 (0.92)
Market-adjusted Return		-0.4168 (0.45)		-1.4848 (0.35)
Likelihood Ratio test (P-value)	8.394 (0.08)	28.951 (0.00)	4.835 (0.89)	5.223 (0.52)

Table 2.7: Robustness check – Using the control firm nearest in size.

Excess cash is the prediction error of Opler et al.'s (1999) cash model. Managerial ownership is the proportion of outstanding voting shares controlled directly or indirectly by management. Employee ownership is the percentage of outstanding shares voted by employees through any form of employee ownership plan. Outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders of at least 5% of outstanding shares. Outside block ownership excludes the dissidents' holding. Unadjusted stock return is one-year return estimated from 15 months to 3 months prior to the proxy contest announcement date. Market-adjusted return is unadjusted return less same-period return on CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ stocks. Each model includes year dummies. In each model, the dependent variable is a dummy variable which equals zero for control firms, one for target firms involved in a stand-alone contest, and two for target firms involved in a combined proxy fight, takeover bid. Since the sample utilizes case-control matching, the regressions are estimated using conditional logits. The results have been reorganized into separate equations for target firms involved in a stand-alone proxy fight and those involved in a contest with takeover bid to facilitate easy reading. The p-value for chi-square test of parameter significance is shown in parenthesis under each parameter estimate. These regressions include only one control firm per test firm. The control firm is the non-target firm whose total assets is within ±40% of the total assets of the corresponding test firm.

Variable	**A**: Stand-alone Proxy Fight Versus No Proxy Fight		**B**: Proxy Fight With Takeover Bid Versus No Proxy Fight	
	Model I	Model II	Model I	Model II
Excess Cash	0.4570 (0.01)	0.5375 (0.01)	-0.0515 (0.76)	-0.8050 (0.10)
Managerial ownership		-0.0453 (0.04)		-0.2016 (0.01)
Employee ownership		0.0369 (0.49)		-0.1798 (0.03)
Outside block ownership		-0.0267 (0.17)		0.0386 (0.44)
Market-adjusted Return		-0.4962 (0.37)		-0.2251 (0.92)
Likelihood Ratio test (P-value)	9.201 (0.03)	19.668 (0.01)	2.864 (0.41)	31.126 (0.00)

Table 2.8: Robustness check – Using the smaller control firms.

Excess cash is the prediction error of Opler et al.'s (1999) cash model. Managerial ownership is the proportion of outstanding voting shares controlled directly or indirectly by management. Employee ownership is the percentage of outstanding shares voted by employees through any form of employee ownership plan. Outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders of at least 5% of outstanding shares. Outside block ownership excludes the dissidents' holding. Unadjusted stock return is one-year return estimated from 15 months to 3 months prior to the proxy contest announcement date. Market-adjusted return is unadjusted return less same-period return on CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ stocks. Each model includes year dummies. In each model, the dependent variable is a dummy variable which equals zero for control firms, one for target firms involved in a stand-alone contest, and two for target firms involved in a combined proxy fight, takeover bid. Since the sample utilizes case-control matching, the regressions are estimated using conditional logits. The results have been reorganized into separate equations for target firms involved in a stand-alone proxy fight and those involved in a contest with takeover bid to facilitate easy reading. The p-value for chi-square test of parameter significance is shown in parenthesis under each parameter estimate. The control firms in these regressions are smaller in total assets than the corresponding test firm.

Variable	**A**: Stand-alone Proxy Fight Versus No Proxy Fight		**B**: Proxy Fight With Takeover Bid Versus No Proxy Fight	
	Model I	Model II	Model I	Model II
Excess Cash	0.3195 (0.02)	0.3951 (0.02)	0.0990 (0.55)	0.1167 (0.62)
Managerial ownership		-0.0889 (0.00)		-0.1061 (0.00)
Employee ownership		-0.0162 (0.71)		-0.0488 (0.46)
Outside block ownership		0.0089 (0.56)		0.0134 (0.62)
Market-adjusted Return		0.0694 (0.89)		-1.6666 (0.05)
Likelihood Ratio test (P-value)	8.337 (0.08)	35.345 (0.00)	2.550 (0.47)	32.246 (0.00)

Table 2.9: Robustness check – Using the larger control firms.

Excess cash is the prediction error of Opler et al.'s (1999) cash model. Managerial ownership is the proportion of outstanding voting shares controlled directly or indirectly by management. Employee ownership is the percentage of outstanding shares voted by employees through any form of employee ownership plan. Outside block ownership is the percentage of outstanding shares owned by non-affiliated shareholders of at least 5% of outstanding shares. Outside block ownership excludes the dissidents' holding. Unadjusted stock return is one-year return estimated from 15 months to 3 months prior to the proxy contest announcement date. Market-adjusted return is unadjusted return less same-period return on CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ stocks. Each model includes year dummies. In each model, the dependent variable is a dummy variable which equals zero for control firms, one for target firms involved in a stand-alone contest, and two for target firms involved in a combined proxy fight, takeover bid. Since the sample utilizes case-control matching, the regressions are estimated using conditional logits. The results have been reorganized into separate equations for target firms involved in a stand-alone proxy fight and those involved in a contest with takeover bid to facilitate easy reading. The p-value for chi-square test of parameter significance is shown in parenthesis under each parameter estimate. The control firms in these regressions are larger in total assets than the corresponding test firm.

Variable	**A**: Stand-alone Proxy Fight Versus No Proxy Fight		**B**: Proxy Fight With Takeover Bid Versus No Proxy Fight	
	Model I	Model II	Model I	Model II
Excess Cash	0.3392 (0.03)	0.3058 (0.06)	-0.0816 (0.66)	-0.1169 (0.61)
Managerial ownership		-0.0252 (0.08)		-0.0396 (0.13)
Employee ownership		-0.0242 (0.54)		-0.0461 (0.38)
Outside block ownership		-0.0037 (0.82)		0.0233 (0.39)
Market-adjusted Return		-0.2525 (0.61)		-0.5433 (0.74)
Likelihood Ratio test (P-value)	8.056 (0.04)	12.417 (0.09)	5.972 (0.11)	11.305 (0.13)

Table 2.10: Conditional and unconditional empirical excess cash transition probabilities, 1989 – 1998.

The transition probability for cell (*i, j*) is the probability of a firm moving from excess cash decile *i* during year *t-1* to excess cash decile *j* in year *t+1*. The first entry (bold) in each cell is the transition probability conditioned on the firm being the target of a proxy contest in year *t*. The second entry is the unconditional transition probability estimated over all COMPUSTAT firms not involved in a proxy fight during the 1989 – 1998 period. Entries in the last column are the probabilities of moving from decile *i* of excess cash in year *t-1* to the upper half of the distribution of excess cash (that is, deciles six to 10) in year *t+1*. For example, entries in the last row reflect the probabilities of a firm moving from the tenth decile of excess cash in year *t-1* to various deciles in year *t+1*, so that such a firm targeted in a proxy fight during year *t* remains a tenth decile firm with probability 0.000 while a similar tenth decile firm not targeted in a proxy fight remains a tenth decile firm with probability 0.428. Similarly, the tenth-decile proxy fight target remains in the upper half of excess cash distribution in year *t+1* with probability 0.667 while the corresponding probability for a non-target is 0.874. The probabilities do not sum up to one because of rounding errors.

Post / Pre	1st Decile	2nd Decile	3rd Decile	4th Decile	5th Decile	6th Decile	7th Decile	8th Decile	9th Decile	10th Decile	6th – 10th Decile
1st Decile	**0.500** 0.502	**0.500** 0.181	**0.000** 0.086	**0.000** 0.061	**0.000** 0.042	**0.000** 0.033	**0.000** 0.029	**0.000** 0.024	**0.000** 0.014	**0.000** 0.029	**0.000** 0.129
2nd Decile	**0.000** 0.165	**0.000** 0.301	**0.500** 0.191	**0.500** 0.110	**0.000** 0.072	**0.000** 0.056	**0.000** 0.034	**0.000** 0.029	**0.000** 0.021	**0.000** 0.017	**0.000** 0.157
3rd Decile	**0.250** 0.082	**0.250** 0.194	**0.250** 0.238	**0.000** 0.177	**0.250** 0.110	**0.000** 0.078	**0.000** 0.049	**0.000** 0.037	**0.000** 0.021	**0.000** 0.015	**0.000** 0.200
4th Decile	**0.000** 0.062	**0.250** 0.118	**0.250** 0.181	**0.250** 0.202	**0.000** 0.154	**0.000** 0.109	**0.000** 0.074	**0.250** 0.047	**0.000** 0.036	**0.000** 0.018	**0.250** 0.284
5th Decile	**0.000** 0.044	**0.000** 0.079	**0.000** 0.118	**0.000** 0.173	**0.000** 0.180	**0.000** 0.161	**0.333** 0.108	**0.333** 0.072	**0.333** 0.044	**0.000** 0.022	**1.000** 0.407
6th Decile	**0.000** 0.036	**0.000** 0.058	**0.143** 0.090	**0.429** 0.124	**0.000** 0.161	**0.286** 0.175	**0.143** 0.155	**0.000** 0.101	**0.000** 0.070	**0.000** 0.031	**0.429** 0.532
7th Decile	**0.200** 0.030	**0.000** 0.037	**0.200** 0.058	**0.000** 0.081	**0.000** 0.136	**0.200** 0.172	**0.000** 0.193	**0.000** 0.151	**0.400** 0.101	**0.000** 0.042	**0.600** 0.659
8th Decile	**0.000** 0.018	**0.000** 0.031	**0.000** 0.043	**0.100** 0.055	**0.200** 0.087	**0.000** 0.127	**0.200** 0.190	**0.300** 0.231	**0.100** 0.157	**0.100** 0.062	**0.700** 0.767
9th Decile	**0.167** 0.021	**0.000** 0.025	**0.000** 0.027	**0.167** 0.037	**0.000** 0.061	**0.167** 0.081	**0.167** 0.128	**0.000** 0.209	**0.000** 0.288	**0.333** 0.124	**0.667** 0.830
10th Decile	**0.000** 0.032	**0.000** 0.017	**0.000** 0.022	**0.333** 0.025	**0.000** 0.031	**0.000** 0.043	**0.000** 0.072	**0.000** 0.120	**0.667** 0.211	**0.000** 0.428	**0.667** 0.874

Table 2.11: Operational changes in the 12 months preceding a proxy contest announcement and the 12 months following resolution of the proxy fight.

The figures are based on summaries of news items reported in the *Wall Street Journal*, *Dow Jones News Service*, *Dow Jones Business News*, *PR Newswire*, and *Business Newswire*. The first entry (bold) in each cell is the figure for the pre-contest period. Post-contest figures are shown under the respective pre-contest values. Stock repurchase includes all forms of common stock repurchase announced during the period. Special dividends are one-time dividends announced during the period. Executive turnover includes all resignations or terminations of any of the Chairman of the Board, the Chief Executive Officer, or the President/Chief Operating Officer but excludes unforced turnovers such as retirement at normal age. New capital infusion includes a debt or equity issue, whether public or private. The sample period is 1989 to 1998.

Event	Occurrence per test firm	Occurrence per control firm
Stock	**0.1071**	**0.1333**
Repurchase	0.1964	0.1436
Special	**0.0357**	**0.0103**
Dividends	0.0893	0.0000
Executive	**0.1071**	**0.0410**
Turnover	0.2143	0.0256
New Capital	**0.2321**	**0.1897**
Infusion	0.1071	0.3487
Ratio of new debt issue to	**1.1667**	**1.4667**
New equity issue	5.0000	1.6111

CHAPTER 3

WHEN LABOR HAS A VOICE IN CORPORATE GOVERNANCE*

3.1. Introduction

Labor equity ownership is often proposed as a way of reconciling the divergent interests of shareholders and labor. The idea is that workers who are also shareholders might be less inclined to take actions that would reduce shareholder value, allowing the management to pursue value maximization with fewer labor-imposed constraints.

To test this hypothesis, we compare several dimensions of corporate decision-making by firms with labor equity ownership and other firms, controlling for exogenous firm characteristics. We find that labor-controlled publicly-traded firms spend less on new capital, take fewer risks, grow more slowly, create fewer new jobs, and exhibit lower labor productivity and lower total factor productivity. These findings are highly robust.

Labor ownership gives employees a residual claim in addition to the largely contractual claim constituted by their wages and benefits. With its residual claim, labor also acquires a voice in corporate governance. Based on our empirical findings, we propose that labor uses its corporate governance voice to maximize the combined value of its contractual and residual claims. Even when workers own substantial fractions of a firm's equity, the resulting residual claims are small compared to the largely contractual

* The working paper version of this chapter is co-authored with Vikas Mehrotra and Randall Morck.

claims associated with wages and benefits. Yet, in a widely held firm, labor's stake may give it a dominant voice in governance. We propose that this imbalance often pushes corporate policies away from, rather than towards, shareholder value maximization.

The remainder of the paper is organized as follows. In the next section, we propose a simple model analyzing the behavior of labor as a corporate stakeholder and present an overview of the relevant literature. We describe our sample selection procedure and the resulting sample in Section 3.3. We report our empirical results in Section 3.4. Section 3.5 contains a brief summary and concluding remarks.

3.2. Labor as a Corporate Stakeholder

Let the firm's cash flow in period t be $\tilde{c}_t$, a normally distributed random variable with mean $\mu_t(g)$ and standard deviation $\sigma_t(g)$ for g, a vector of corporate governance decisions the firm's managers make at time t_0. In periods where $\tilde{c}_t > \omega$, the firm pays its employees a wage $\tilde{\omega}_t = \omega$, and pays out the residual amount as a dividend $\tilde{\delta}_t = \tilde{c}_t - \omega$. If $\tilde{c}_t \leq \omega$, the shareholders receive $\tilde{\delta}_t = 0$ and labor takes a pay cut for the period, receiving $\tilde{\omega}_t = \tilde{c}_t$.[7]

The shareholders' claim to each period's cash flow is thus a call option on $\tilde{c}_t$ with exercise price ω and current labor's claim is a fixed amount ω less a put option labor

[7] The derivation is similar to a debt contract. Normality is assumed for ease of analysis, but is not required for the main results – any symmetric distribution will suffice.

implicitly writes to buy $\tilde{c}_t$ for ω. Graphically, Figure 3.1 shows how the shareholders' claim plus that of labor equals the cash flow at each point in time.

The value of current workers' claim on the firm is thus

$$\tilde{V}_L = \int_{t_0}^{T} e^{-rt} \int \min[\omega, c]\, f(c)\, dc\, dt \qquad [1]$$

where $f(c)$ is the probability measure of $\tilde{c}_t$ in each period t. As a technical simplification, without loss of generality, we take the values of μ and σ to be such that $\mu > \omega >> 0$.

Anglo-American corporate governance law is based on the premise that since employees are contractual claimants, usually receiving ω, they need no voice in corporate governance. Consequently, the firms is, *de jure* at least, run in the shareholders' interests, with management choosing g to maximize shareholder value,

$$\tilde{V}_E = \int_{t_0}^{\infty} e^{-rt} \int \max[c(g) - \omega, 0]\, f(c(g))\, dc\, dt \qquad [2]$$

Since $\mu > \omega$, this is approximately the same as the economically efficient goal of maximizing the value of the firm.

A hypothetical alternative legal regime would give complete corporate governance power (i.e. control over g) to current labor, who would choose g to maximize the value of $\tilde{V}_L$. Suppose labor has a horizon limitation, T, beyond which it employs an infinite discount rate. Under these assumptions, labor's objective function is to minimize the value of the option

$$\widetilde{P}_L = \int_{t_0}^{T} e^{-rt} \int \max[0, \omega - c]\, f(c)\, dc\, dt \qquad [3]$$

because

$$\widetilde{V}_L = \int_{t_0}^{T} e^{-rt} \int (\omega - \max[0, \omega - c])\, f(c)\, dc\, dt = \int_{t_0}^{T} e^{-rt}\, \omega\, dt - \int \max[0, \omega - c]\, f(c)\, dc\, dt$$

3.2.1 Labor control with no labor equity stake

The objective of managers in our hypothetical labor governed firm is to minimize [3]. Applying standard results in option pricing theory to a comparison of the objective functions [2] and [3] lets us predict how corporate governance in our hypothetical labor-controlled firm might differ from corporate governance in shareholder-controlled firms.

First, all else equal, the option value $\widetilde{P}_L$ is lower if $\widetilde{c}_t$ is larger in time t_0 through T. However, what happens to $\widetilde{c}_t$ in subsequent periods does not affect the value of $\widetilde{P}_L$. In contrast, the value of $\widetilde{V}_E$ is larger if sacrificing near-term $\widetilde{c}_t$ raises future values of $\widetilde{c}_t$ sufficiently. Consequently, our hypothetical labor-governed firm would avoid some long-term investments that a shareholder-controlled firm would undertake, as current workers have no claim to distant future returns. Efficient borrowing can alleviate this particular type of under-investment; however, note that borrowing for labor-managed firms is subject to moral hazard problems because of labor's non-transferable rights.

Second, all else equal, the option value $\widetilde{P}_L$ is lower if the variation of $\widetilde{c}_t$ is smaller in time t_0 through T. In contrast, the value of $\widetilde{V}_E$ is larger if variation in $\widetilde{c}_t$ rises. This

implies that our hypothetical firm should avoid risks that a shareholder-controlled firm would accept.

Third, all else equal, these two differences should lead to slower growth on average for our hypothetical labor-controlled firm than for shareholder-controlled firms.

Fourth, it is unclear whether labor controlled firms should exhibit higher or lower values of $\tilde{c}_t$ in current time windows because of two conflicting effects. Whereas lower funding of long-term investments should raise $\tilde{c}_t$ relative to the values exhibited in comparable shareholder-controlled firms, a sequence of lower than optimal investments and risk avoidance will ultimately reduce $\tilde{c}_t$.

Fifth, since [2] explicitly maximizes share value while [3] does not, measures of shareholder value such as market to book ratios and average Tobin's q ratios should be lower in our hypothetical labor-controlled firms than in shareholder-controlled firms.

Sixth, it makes sense to envision worker effort as a corporate governance variable in a worker-controlled firm, despite the obvious free-rider problem. Shareholder-controlled firms use a variety of incentive systems to encourage workers to work harder. These tools are also at the disposal of our hypothetical worker-managed firm. All else equal, [2] shows the shareholders claim, $\tilde{V}_E$, to always be larger if $\tilde{c}_t$ rises. In contrast, the structure of [3] shows that labor is concerned only with preventing $\tilde{c}_t$ from falling below ω. Any further increase in $\tilde{c}_t$ is unimportant to labor.[8] These considerations

[8] Lending excess cash via marketable securities will not solve this problem for labor with a fixed retirement age. Consider a labor member just about to retire. For her, generating any surplus cash is not worth the

suggest that labor-controlled firms might invest less than would shareholder-controlled firms in incentive schemes designed to increase productivity.

3.2.2 Labor control associated with equity ownership by labor

In practice, labor does not assume corporate control rights without acquiring an equity stake. However, if other shareholders are small, it seems likely that equity ownership might give labor a corporate governance voice out of proportion to its equity block holding.

If share ownership is widely dispersed for the most part, the owner of a substantial block of shares can often dominate corporate governance decisions. Morck *et al.* (1988) argue that holding a five percent block of stock lets top managers dominate corporate governance. Other authors argue for a higher threshold of control, though there is broad agreement that a stake well below 50% can confer *de facto* complete control on the blockholder.

Suppose that labor has total corporate control, but owns only fraction $\lambda \in [0,1]$ of the firm's stock, with the remaining shares owned by other shareholders. Labor's objective function is then

$$\max_{g} \tilde{V}_L' = \int_{t_0}^{T} e^{-rt} \int \min[\omega, c] f(c(g)) dc dt + \lambda \int_{t_0}^{T} e^{-rt} \int \max[c(g) - \omega, 0] f(c(g)) dc dt \qquad [4]$$

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effort. By a process of reverse induction, we can see why younger labor members would also be unwilling to invest effort in creating surplus cash.

If λ is close to one, then [4] becomes more similar to the objective of maximizing the value of the whole firm, and to the objective of maximizing share value as in [2]. In contrast, if λ is close to zero, then [4] becomes more similar to the objective of maximizing [1], which is equivalent to minimizing the value of the put option described in [3].

These considerations suggest that labor equity ownership might lead to labor gaining a controlling voice in corporate governance for a small share of the firm's residual cash flows. In such cases, the six corporate governance implications described above might well be displayed. Labor control, obtained with only a small labor ownership stake, might lead to reduced long-term investment, risk avoidance, slower growth, distorted near-term cash flows, less concern with share value maximization, and/or reduced productivity.

3.2.3 Previous work

Much previous work has searched for the productivity and incentive effects of labor equity ownership. One approach consists of examining abnormal returns around labor's acquisition of equity blocks. Several authors analyze the stock price reaction to Employee Stock Ownership Plan (ESOP) announcements. An ESOP is a tax-qualified defined contribution retirement benefit plan established under the Employee Retirement Income Security Act (ERISA) of 1974. ESOPs invest most of their pension assets in the employers' stock. Thus, the creation of an ESOP can result in employees acquiring a significant block of shares. Results of ESOP announcement studies have been

inconclusive. Chang (1990) finds positive abnormal returns. In contrast, Gordon and Pound (1990) document an insignificant average abnormal return.

ESOPs enjoy special tax privileges and are subject to provisions not applicable to other ownership plans. This can create problems in interpreting empirical findings. For example, does a positive abnormal return upon an ESOP announcement reflect expectations of changed labor productivity or expectations of tax breaks? Some authors (for example, Scholes and Wolfson, 1990; Chaplinsky and Niehaus, 1990) suggest that the tax effects of ESOPs are limited and not necessarily bigger than those provided by other employee compensation plans. However, Beatty (1995) documents contradictory evidence, showing that ESOP announcement abnormal return is significantly positively related to estimated tax benefits. Thus, it remains unknown which effect dominates the observed abnormal return.

Since ESOPs often arise in connection with corporate takeover defenses, further interpretation problems arise. Gordon and Pound (1990) point out that the management of a potential takeover target can create an ESOP to modify the firm's ownership structure in its favor by placing a block of shares in supposedly friendly hands; thus, ESOPs could be used as a managerial entrenchment tool. However, as shown by Stulz (1988) with respect to anti-takeover activities in general, it is also possible for management to use the ESOP as leverage in negotiating better terms for shareholders in a takeover contest. For these reasons, it is difficult to understand the incentive effects of labor ownership by analyzing ESOP announcement abnormal returns.

Another approach is to estimate the effect of employee ownership on labor productivity and accounting measures of corporate performance. Bloom (1986) utilizes a series of augmented Cobb-Douglas production functions to evaluate the effects of employee ownership on productivity at the firm level. He estimates the functions cross-sectionally and longitudinally for a large sample of ESOP and non-ESOP firms in manufacturing and non-manufacturing industries and concludes that employee ownership has little or no impact on corporate performance. In contrast, Beatty (1995) performs a similar analysis and reports that ESOPs increase sales per employee in the first two post ESOP-adoption years if the ESOP replaces no other retirement benefit plan. Park and Song (1995) report significant improvements in performance (as measured by return on assets, Tobin's q, and market-to-book ratio) in the three years following plan establishment. However, such improvements are contingent on the presence of an external blockholder. In a more recent study, Lougee (1999) investigates the long-term effects of ESOP adoption. She concludes that her tests provide no evidence that ESOPs improve firm performance.

A potential problem with studies that focus on the immediate post-ESOP years is that they can capture the residual effects of financial circumstances associated with takeover threats. This matters since ESOPs can be created as takeover defenses or cost reduction programs in the presence of financial difficulties. In addition, given the stock allocation rules followed by most ownership plans, it apparently takes time for the effects of employee influence on management to filter through to the results of the corporation.

We address these difficulties in two ways. First, we consider all labor-owned equity blocks, not just those associated with ESOPs. Since much labor ownership in US

publicly traded firms does not arise out of ESOPs, this provides us with a substantially larger sample and affords us the opportunity to examine possible differences arising as a result of the mode of labor ownership. Second, to avoid temporary or unusual financial circumstances associated with the events leading up to an ESOP, we require that blocks of labor ownership be in place for several years before we admit a firm to our sample of labor-controlled firms. By not including the immediately ensuing years, we examine results more likely to be subject to labor's governance influences. We thus focus on long-term steady state implications of labor equity ownership.

Besides the foregoing, previous studies tend to focus on nominal employee ownership by including firms that have some form of an employee ownership plan in place, irrespective of the proportion of shares acquired by workers and whether or not such shares are actually voted by employees. Chang and Mayers (1992) discuss how *de jure* labor equity blocks can become equivalent to management ownership. Indeed, corporate management, not labor or its representatives, explicitly votes many labor equity blocks. Including such blocks is appropriate in other contexts, but is not in this study. This is because control over voting shares translates into corporate governance clout, and hence into the strength with which labor's objectives become manifest in corporate policy.

Labor voted equity stakes clearly give labor a voice in corporate governance decisions. McElrath and Rowan (1992) present empirical evidence suggesting that some unions view employee ownership as a useful tool to increase their role in strategic decision making and to restrict management's largely "unchecked independence" to run

the business. We are therefore interested in firms where labor votes its stock, but not in firms where managers vote labor's shares.

3.3. Empirical Framework

3.3.1 Sample construction

We begin with all firms reporting financial data in COMPUSTAT in 1992. We examined 1992 proxy statements for these firms, and classify firms with at least 5% of their total voting stock in the hands of employees as subject to some degree of labor voice in corporate governance. We are interested in the existence of a corporate control voice for labor, not simple *de jure* labor ownership. Consequently, we drop all firms in which the power to vote labor-owned shares is exercised by managers. A total of 291 firms satisfy the above requirements.

We then checked earlier proxy statements for each of these firms to determine the year in which the threshold level of 5% labor ownership was first reached, and denote this as the 'event year' for the firm in question. We exclude firms with event years later than 1990. This is because we wish to examine the steady state effects of employee voice in corporate control, and employee stock ownership can sometimes result from corporate restructuring under financial distress. By requiring at least four years of labor corporate control voice prior to the empirical window we examine, we hope to mitigate the effects of any temporary financial problems that might have been associated with labor accumulating stock. We also exclude firms with event years earlier than 1981 (because of data limitations) as well as those with total assets less than five million dollars.

Finally, we require that the financial reporting in COMPUSTAT be complete as regards key variables. We therefore eliminate firms whose sales, total assets, or net income are missing.

This yields a 'labor voice' sample consisting of 211 firms. Of these, 119 are firms in which labor acquired its stake through an ESOP. In 52 of the 211 firms, labor acquired its stake through other channels: profit sharing, stock bonuses, stock savings, stock purchases, or combinations of these and other retirement benefit plans. In 40 of our 'labor voice' firms, labor's equity stake was acquired through a combination of ESOPs and other channels.

Our control sample includes all firms in COMPUSTAT that report no labor ownership in any year up to 1998 and have assets totaling at least five million dollars. Firms for which sales, total assets or net income are missing over 1994 to 1998 are dropped, as are firms whose proxy statements are unavailable during the period. This results in a control sample containing 2804 firms.

3.3.2 Construction of corporate governance variables

Our objective is to understand how corporate governance might differ in labor voice firms and other firms. This section describes the corporate governance variables used to compare the test and control samples. As indicated above, we wish to focus on steady state effects. We thus compare our labor voice firms to control firms over the five-year period 1994 to 1998. Since the latest event year is 1990, this ensures that labor in each test firm had a voice in corporate control for a minimum of four years before the

comparison period. In this way, we allow the immediate effect of any triggering event, such as financial difficulties or a hostile takeover attempt, to fade.

Long-term Investment

We consider two sorts of long-term investments. The first, denoted *dK/K*, is capital expenditure on new property, plant and equipment. This is normalized by total net property, plant, and equipment and can thus be interpreted as an investment rate. The second is research and development spending, R&D. Where all other main financial variables (sales, assets, and net income) are reported, but R&D is not, we presume it to be negligible and set it to zero. We also normalized R&D spending by total net property, plant, and equipment, and denote it *R&D/K*.

Operating Risk

Our primary measure of operating risk is the three year standard deviation of return on assets. We define return on assets as the ratio of operating income before depreciation, interest, and taxes to total assets. As a robustness check, we also consider the standard deviation of the same numerator divided by total sales.

Growth

We define three measures of corporate growth, namely, sales growth, assets growth, and labor force growth. Sales growth is the three-year average growth rate of real sales defined as

$$\Delta Sales_t = \frac{\alpha_t Sales_t - \alpha_{t-3} Sales_{t-3}}{3 * \alpha_{t-3} Sales_{t-3}} \qquad [7]$$

for each year t, where α is the GDP deflator. The growth rates of real assets and labor force are constructed analogously.

Short-term Profitability

As an estimate of current profitability, we use return on assets, defined as operating income before depreciation, interest, and taxes divided by total assets. As a robustness check, we also consider return on sales, defined as the same numerator divided by net sales.

Shareholder Value

We employ two measures of shareholder value creation. These are the firm's market-to-book ratio and a more sophisticated estimate of average Tobin's q, obtained from Morck and Yang (2001).

Productivity

To estimate total factor productivity, we assume that each firm's sales are generated by a Cobb-Douglas production function of the form

$$Y_{it} = AL_{it}^{\beta} K_{it}^{\alpha} \qquad [8]$$

where Y_{it} is net sales for firm i in period t, L_{it} is the number of employees, K_{it} is net property, plant, and equipment, and A, α, and β are parameters. Unlike Bloom (1986) and Beatty (1995), we do not assume a labor ownership augmentation parameter. Rather, we employ residuals from our estimation of the logarithmic transformation of [8] as measures of firm-level total factor productivity, and look for any effect associated with

labor voice in these residuals. We control for industry factors by estimating a separate equation for each two-digit SIC industry group.

It is also of interest to compare labor productivity, rather than total factor productivity. We measure labor productivity by the simple ratio of real sales to the number of employees.

Table 3.1 presents simple univariate statistics for all the variables described in this section. For each firm, we calculate the average of each variable over the five year period from 1994 to 1998 so that there is only one observation per firm. No statistical tests are reported in the table because all statistics are calculated for the full sample, that is, labor voice and control firms combined. The purpose of the table is to illustrate the variation in the variables of interest among the sample firms.

3.3.3 Statistical tests

We begin each statistical analysis section by contrasting the means and medians of the key corporate governance variables defined in the previous section for labor voice and control firms. We recognize that these variables are often not entirely within management's control, and so may sometimes be misleading as indicators of managers' intentions, or corporate governance policies. We therefore follow simple comparisons of these variables across the two samples with matched pair and multiple regression analyses. Each of these methods of controlling for exogenous factors has strengths and weaknesses. We present both, so that each can be viewed as a robustness check on the other.

The matched pair analysis consists of univariate comparisons of the governance variables for labor voice firms and a size and industry matched set of control firms. For each labor voice firm, we select a control firm in the same three-digit SIC industry group having 1993 assets within 30% of the total assets for the labor voice firm. A match could not be found in the three-digit SIC group for 57 firms. For these firms, we select control firms from the two-digit SIC industry group.

Following the matched pair analysis, we estimate multiple regressions for each of the governance variables. The primary motivation for using a multiple regression framework in this context is that labor ownership may have resulted from past financial problems. For example, labor ownership can result from a bailout of the company using pension fund money to set up an ESOP, as at Morrison Knudsen Corp in September 1988. Labor ownership may also arise as a concession to unions in return for taking pay cuts, as at United Airlines. Establishing a labor-owned equity block can also serve as a defensive move against an actual or feared hostile takeover, as in the well-known Polaroid case. Since Morck *et al.* (1989) and others show that hostile takeovers in this period were often preceded by poor financial performance, a spurious correlation problem is again possible, that is, past performance can result in labor control, as well as affect the dependent variable. To address this problem, we consider a number of variables to control for remaining aftereffects of past financial circumstances.

The first of these is average lagged return on assets ratios calculated over the years 1989 to 1980. Recall that we eliminate firms whose labor controlled equity blocks were established after 1990 or before 1981. Including these lags should thus capture any financial problems that triggered the formation of the labor equity block. As a robustness

check, we use an analogous set of average lagged return on sales ratios. Our results are not sensitive to the measure of past financial performance.

A second approach to controlling for past financial history is to include lagged liquidity variables. In this capacity, we use average lagged quick ratios, again covering the years 1989 back to 1980. As a robustness check, we also use an analogous set of lagged interest coverage ratios.

We employ three-digit SIC code dummies to control for industry effects, and use the logarithm of total assets (in 1994 dollars) to control for firm size. As a robustness check, we repeat all our regressions using the logarithm of total sales to measure size. We also include leverage, defined as total long-term debt over total assets. As a robustness check, we also employ total debt over total assets.

Table 3.2 provides statistics on lagged measures of profitability, liquidity, size and leverage for both the labor voice and control samples. In the ten years spanning 1980 through 1989, labor voice firms show superior return on assets than their non-labor counterparts, although the return on sales measure is not significantly different. Labor voice firms display lower liquidity as measured by the quick ratio over the same time period. The median leverage ratio is higher for labor voice firms, as is the ability to cover interest. In terms of size, the median labor voice firm is larger than the median control firm. Overall, we note that in the ten years spanning 1980 through 1989, labor voice firms were more profitable, but have higher leverage and lower liquidity than their counterparts. Below we provide results on the subsequent comparative investment and profitability performance of these firms.

3.4. Empirical Results

In this section, we consider key dimensions of corporate governance and contrast the policies of labor voice firms with those of other firms in each of these dimensions. The issues we investigate are: long term corporate investment policy, corporate risk-taking, corporate growth, short-term financial performance, shareholder value creation, and general productivity. We consider each of these in turn.

3.4.1 Long-term investment

Panel A of Table 3.3 displays capital investment rates, *dK/K*, and research and development spending, *R&D/K* for our labor voice and control firms. Both measures of long-term investment are significantly lower in labor voice firms over the 1994 to 1998 period. Average long-term investment rate for labor voice firms is 6.4% compared to 13.7% for all other firms. Similarly, R&D expenditure for labor voice firms averaged 7.4% of net property, plant, and equipment, compared to 28.8% for control firms. In each instance, the difference is significant at the 1% level. Similar results hold with respect to median values.

Panel B of Table 3.3 compares capital spending and research and development expenditure by labor voice firms and size and industry matched control firms. For labor voice firms, average capital spending as a percentage of net property, plant, and equipment is 5.9%, compared to 12.0% for control firms. Median values are 3.5% and 7.5%, respectively. The differences are significant at the 1% confidence level. Similarly, average research and development expenditure as a proportion of net property, plant, and

equipment is 7.9% for labor voice firms and 13.4% for control firms. The difference is marginally significant.

The matched pair comparison results suggest that labor voice firms invest less than similar firms in the same industry. A reasonable concern with these results is that some of the labor voice firms may have suffered from financial problems in the past, and that these lagged performance variables are driving the under-investment result reported above. To overcome this concern, we run regressions of our long-term investment policy variables on industry dummies, firm size controls, and collections of lagged financial variable (as described in Table 3.2) designed to control for any residual aftereffects of unusual past financial problems.

Results are shown in Table 3.4. Models I and III distinguish labor voice firms from control firms with a dummy variable set to one if labor-voted equity stake is at least five percent, and to zero otherwise.[9] Models II and IV measure labor voice by the percentage of equity voted by labor. Each regression includes three-digit industry dummies (not shown in table to conserve space), a firm size variable, a leverage measure, average lagged return on assets, and average lagged quick ratio.

Models I and II confirm the univariate and matched pair comparison results with respect to capital spending. The labor voice variable is negative and significant at less than the 5% level in each regression. The estimated coefficients imply that after

[9] Results for labor stakes above 10% and 15% are similar and not reported in the table. Only 29 firms have labor stakes higher than 20%, and for this group, the labor voice dummy is not significant.

controlling for possible residual effects of any unusual past financial circumstances, as well as size and industry factors, a labor voice in corporate governance is associated with a 5.29% reduction in long-term investment while a one percentage increase in labor-controlled equity reduces capital spending by 25 basis points.

Model II and IV present results of regressions for research and development expenditure. Since considering disinvestments is problematic because we do not have real economic depreciation data, our dependent variable data are necessarily censored. We thus employ Tobit, rather than OLS, regressions. The labor voice variable is not significant in either regression, although it is negative in Model IV which measures labor voice by the proportion of labor-voted equity. These results suggest that the labor voice effect found in the univariate and matched comparison tests for research and development expenditure is attenuated in a multiple regression framework.

As robustness checks, we also rerun all of the above statistical procedures using alternative long-term investment measures normalized by total assets and by total sales. Using these variants does not qualitatively change our results. Further, if we partition the sample into ESOP firms and firms with other types of labor ownership, we find no significant differences in the effect of labor voice, that is, labor voice firms tend to reduce long-term investment, irrespective of the means through which labor acquired ownership.

These results are hard to reconcile with the hypothesis that labor equity ownership causes workers to advocate shareholders' interests. McConell and Muscarella (1985) show that stock prices rise when firms announce increases to their capital budgets. Chan *et al.* (1990) show that similar positive abnormal returns accompany announcements that

firms are increasing their R&D budgets. These studies and others suggest that shareholders typically prefer firms to undertake more long-term investment than they do. If labor voice firms are cutting back on investments as documented above, this is clearly not in the best interest of shareholders.

3.4.2 Operating risk

Panel A of Table 3.5 compares operating risk measured by the three-year standard deviation of return on assets averaged over 1994 to 1998. Mean and median operating risk for labor voice firms are 4.4% and 2.7%, respectively. In contrast, mean and median values for all other firms are 7.0% and 3.9%, respectively. The differences are significant at the 1% level. Results are similar when we scale operating income by sales. Thus, operating risk during this period is significantly lower in labor voice firms.

We present size and industry matched-pair results in Panel B of Table 3.5. The mean standard deviation of return on assets for the test firms is 3.9%, compared to 4.9% for the size and industry matched control firms. Corresponding figures for average standard deviation of return on sales are 4.0% and 5.0%, respectively. In each case, the difference is statistically significant at the 10% level. However, median differences in operating risk across the two samples are not significant.

Table 3.6 presents results of regressions for operating risk analogous to those in Table 3.4 for long-term investment and R&D expenditure. The labor voice variable is negative in both regressions, but not significant at conventional levels.[10] As a robustness

[10] The labor voice dummy is statistically significant for labor ownership greater than 15%, although this is not reported in Table 3.6.

check, we substitute the standard deviation of return on sales, estimated over the same period, as the measure of operating risk. Qualitatively similar results ensue. Next, we partition the sample into ESOP firms and firms with other types of labor ownership. We find some differences in the effect of labor voice based on the sample partition. The labor voice variable is negative and significant for ESOP firms. On the other hand, it is never significant in the regressions for firms with other types of labor ownership.

Our findings indicate that a labor voice in corporate governance is associated with a reduction in corporate risk taking. This is consistent with risk-averse employees biasing their firms' investment and other decisions to reduce risk. It is also consistent with the prediction of our model that employee-owners would prefer lower operating risk to minimize the value of the option on the firm's cash flow implicitly written by labor. This provides further evidence that a labor influence in corporate governance does not ensure a convergence of interest between employees and outside shareholders. Rather, it appears that labor's enhanced ability to pursue its self-interest results in an artificial restriction on the firm's strategy space.

3.4.3 Corporate growth

Univariate statistics for real sales growth, *ΔSALES*, real assets growth, *ΔASSETS*, and labor force growth, *ΔSTAFF*, are shown in Panel A of Table 3.7. Over the 1994 to 1998 period, labor voice firms achieved an average sales growth of 7.1%. During the same period, real sales for all other firms grew at an average rate of 19.5%. Median sales growth is 4.1% and 8.7%, respectively. The differences are significant at less than the 1% level. Results are similar for assets and labor force growth rates. We particularly

note the significance of the difference between the growth in employees for labor voice firms and control firms: labor voice firms increase their staff at a rate that is a quarter of the staff growth rate for control firms, in both mean and median statistics. This is consistent with the hypothesis that labor voice firms are averse to bringing in new claimants in their control. The parallels to closely-held firms are apparent: labor voice dilution is important to labor just as equity dilution is to controlling shareholders of closely-held firms.

We also note that the *ratio* of the rate of sales growth to asset growth is very different for labor and control firms. For labor firms, mean and median sales growth is less than asset growth, whereas for the control firms, sales growth exceeds asset growth. This suggests that labor voice firms show lower productivity gains than their non-labor counterparts. We re-visit productivity issues in Section 3.4.6.

In Panel B of Table 3.7, we present size and industry matched-pair comparisons of sales growth, assets growth, and staff growth. The matched pair results are very similar to the full sample comparisons. Labor voice firms achieved an average real sales growth of 6.6%, as opposed to 15.1% for size and industry matched controls. Median real sales growth rates are 3.9% and 9.7% respectively. The differences are significant at the 1% level. Similar results obtain with respect to the growth rate of real assets. Labor voice firms grew at an average rate of 8.1%, compared to 14.8% for size and industry matched pairs. Furthermore, employment at firms with labor voice in corporate governance grew at an average of 2.8% versus 10.6% for size and industry matched control firms. All differences are significant at the 1% confidence level. Median growth

rates display similar patterns and statistical significance, confirming that the differences are not driven by outliers.

Subsequently, we estimate regressions using control variables from Table 3.2. Table 3.8 presents results of these regressions. Models I, III, and V use a labor voice threshold of 5%, while Models II, IV, and VI use a continuous labor voice stake. The dependent variable in these regressions is real sales growth for Models I and II, asset growth for Models III and IV, and staff growth for Models V and VI.

The coefficients of the labor voice dummy variables in Table 3.8 are negative and significant (p-value < 0.01) for all regressions (Models I, III, and V). The parameter estimates suggest that real sales growth, asset growth and staff growth are each lower for labor voice firms by about 5%. These results confirm the univariate findings in Table 3.7. When labor voice is measured as a continuous variable, the coefficient is -0.24% for sales growth and -0.21% for asset growth, indicating that a one percentage point increase in labor-controlled votes reduces real sales growth by 0.24% and real asset growth by 0.21%. Similar results obtain with respect to staff growth as shown in Models V and VI; that is, labor ownership is associated with a significant reduction in employment growth. These results do not depend on the mode of labor ownership. When we partition the sample into ESOP firms and firms with other types of labor ownership, we obtain virtually the same results.

The evidence documented above strongly suggests that labor control is associated with significant reduction in various dimensions of corporate growth. This could be the result of a systematic avoidance of certain types of investments by labor voice firms, in

particular, a bias towards lower capital expenditure, R&D spending, and corporate risk-taking, as noted in Sections 3.4.1 and 3.4.2. In addition, incentive problems created by labor ownership can also result in lower productivity which, in turn, is reflected in lower growth rates. We report our findings on the productivity effects of labor influence in corporate governance in Section 3.4.6.

3.4.4 Short-term profitability

Table 3.9 provides statistics on two measures of profitability for labor voice and control firms. Full sample comparisons are presented in Panel A. As seen in the table, average return on assets and return on sales for labor voice firms are 11.2% and 14.1%, respectively, compared to 8.6% and 8.5% for all other firms. The differences are significant at the 1% level, suggesting that labor voice firms are more profitable in the short run. These results are somewhat paradoxical in light of our findings so far that labor voice firms tend to invest less and have lower growth rates. However, as we show below, these results are not robust with respect to size and industry effects and are reversed once we control for prior performance and liquidity.

Panel B of Table 3.9 presents matched pair comparison results. Average return on assets for labor voice and size and industry match control firms are 11.0% and 11.7%, respectively. Corresponding values for return on sales are 13.2% and 15.2%, respectively. The difference is not significant in either case. This suggests that short-term profitability for labor voice firms is not significantly different from what obtains at other firms once industry and size factors are accounted for.

We also note that after controlling for size, industry, prior performance and prior liquidity in a multivariate setting, labor voice appears to have a marginally negative impact on short term profitability. Table 3.10 presents regressions of return on assets and return on sales on various measures of the strength of labor voice and our standard list of control variables. The labor voice variable is negative in all instances, and is significant in regressions for return on sales. As expected, prior performance is significantly related to both return on sales and return on assets. Overall, it appears that a significant labor voice is associated with lower profitability after controlling for size, industry, and past performance.

3.4.5 Shareholder value

Table 3.11 provides univariate comparisons of measures of shareholder value creation for labor voice firms and the two control samples. Panel A shows that both market-to-book and Tobin's q ratios are significantly lower in labor voice firms compared to the full sample of COMPUSTAT firms with no labor control. Mean and median market-to-book ratio for labor voice firms are 1.446 and 1.282, respectively, compared to 1.778 and 1.407 for all other firms. Similarly, mean and median average Tobin's q for labor voice firms are 1.449 and 1.213, respectively. In comparison, corresponding values are 1.966 and 1.495 for control firms. All differences are significant at the 1% level.

It is possible that labor firms are over-represented in low growth industries. To address this concern, we also provide size and industry matched comparisons. Results are presented in Panel B of Table 3.11. Average market-to-book ratio for labor voice

firms is 1.437, compared to 1.629 for size and industry matched control firms, lower by 11.66%. Median values are 1.243 and 1.344, respectively. Each difference is significant at the 1% level. Similarly, mean Tobin's q ratio is 1.465 for labor voice firms and 1.884 for control firms. The difference is significant at the 5% level. Thus, the differences cannot be attributed to industry and size factors.

In Table 3.12, we present results of regressions of market-to-book and Tobin's q ratios on labor voice measures and the standard control variables. The labor voice variable is negative and significant in all cases. For market-to-book ratio, when labor voice is measured by an indicator variable set equal to one when labor equity control exceeds five percent (Model I), the coefficient is -0.145, implying that labor voice is associated with a reduction of 14.5 basis points in market-to-book ratios. When labor voice is measured as a continuous variable (Model III), the coefficient is -0.011, implying that a one percent increase in labor control is associated with a one basis point decrease in market-to-book ratio. Similar results obtain for Tobin's q ratio.

We also estimate separate regressions comparing ESOP firms and firms with other types of labor ownership with control firms. As in the full sample, ESOP firms significantly underperform control firms on both measures of shareholder value creation. For the subsample of firms with other types of labor ownership, the labor voice variable is not significant, although it is always negative. Overall, our results suggest that labor control of significant voting power does not ensure a convergence of interest between outside shareholders and employees. Rather, there is strong indication of a considerable deterioration in value creation as measured by market-to-book and q ratios.

3.4.6. Productivity

Univariate statistics for total factor productivity residuals and sales per employee are shown in Table 3.13. Panel A contains full sample comparison results. Average factor productivity residual for labor voice firms is -0.030, compared to 0.021 for all other firms. The difference is significant at the 10% level. Similarly, average sales per employee is lower for labor voice firms (p-value for difference = 0.04), although the difference in medians is not statistically significant.

Size and industry matched comparisons are provided in Panel B of Table 3.13. For control firms, mean and median total factor productivity residual are 0.096 and 0.021, respectively. In contrast, mean and median total factor productivity residuals for labor voice firms are both -0.045. The difference in both the means and medians is significant at the 1% level. Similar results obtain for labor productivity as measured by sales per employee. Average real sales per employee for labor voice firms is $215,000, compared to $275,000 for size and industry matched control firms. Median values are $159,000 and $184,000, respectively. Both the means and medians are significantly different from each other at less than the 5% level.

Table 3.14 presents regressions of total factor productivity and sales per employee on labor voice and control variables. In the total factor productivity regressions, labor voice is negative and significant (p-value = 0.03) when measured as an indicator variable, and negative but insignificant when measured as a continuous variable. Combined with the univariate and matched pair results, these findings suggest that total factor productivity is lower for labor voice firms.

A similar conclusion follows for labor productivity. Table 3.14 shows that the labor voice variable is negative and significant in both regressions for sales per employee. The coefficient estimates imply that, compared to other firms, real sales per employee is lower by about $18,000 in labor voice firms, while a one percentage point increase in the degree of labor control is associated with a reduction of $723 in real sales per employee.

The productivity results suggest that the decline in factor productivity and especially employee productivity in labor voice firms is non-trivial. This may be the outcome of a standard free-rider problem. However, it is also possible that labor-controlled firms invest less in incentive schemes designed to increase productivity. This may be the case if, as suggested by Jensen and Meckling (1979), labor-managed firms are more concerned about current earnings. It should be noted that these explanations are not mutually exclussive.

Our productivity results contrast sharply with Beatty (1995) who reports positive effects for employee ownership acquired via an ESOP that does not replace an existing pension plan. Several factors could be responsible for this. First, her study focuses on sales per employee during the first two post-ESOP adoption years. In contrast, our study excludes the first three years following employee ownership to allow for the effects of any triggering events to wear out and for employees to acquire a governance voice. Thus, relative to the event year, the period studied by Beatty (1995) does not overlap our period and may help to explain the different findings. Also, since she documents positive effects only when the ESOP does not replace an existing benefit plan, it is possible that her result reflects the short-term incentive effects of increased employee benefits. This

appears more probable given her finding of a negative effect when the ESOP replaces an existing benefit plan.

It should be noted that our finding of a negative productivity effect is not inconsistent with reported positive abnormal stock price reaction to ESOP announcements. As shown by Beatty (1995), ESOP transactions provide significant tax savings. It is possible for such savings to more than offset the negative productivity effects, thus resulting in a net wealth gain.

3.5. Conclusions

This study investigates the effect of a significant labor voice in corporate governance on the policies and outcomes of the public corporation. Issues we analyze include investment policy, operating risk, corporate growth, shareholder value creation, and labor and total factor productivity. Our sample includes firms with significant labor stakes acquired through several institutional arrangements and our methodology eliminates the confounding effects of the specific circumstances surrounding labor's acquisition of an ownership stake.

Our empirical findings cast a serious doubt on the simple premise that labor equity participation causes a convergence of interests between workers and shareholders. It appears that the increased governance role acquired by labor following an ownership stake allows employees to influence corporate policies in ways beneficial to their narrow interests. Firms with significant labor control under-invest in capital assets, tend to spend less on firm-specific investments (such as R&D), and have lower operating risk. In

addition, they suffer from lower productivity and experience smaller growth in assets, sales, and labor force. They also under-perform in terms of short-term profitability and shareholder value creation. These results point to labor forcing employee horizon and portfolio diversification problems into the firm's objective function.

References

Beatty, A., 1995. The cash flow and informational effects of employee stock ownership plans. Journal of Financial Economics 38, 211-240.

Bloom, S., 1986. Employee ownership and firm performance. Ph.D. dissertation, Harvard University, Boston, MA.

Chan, S. H., Martin, J. D., Kensinger, J. W., 1990. Corporate research and development expenditures and share value. Journal of Financial Economics 26, 255-276.

Chang, S., 1990. Employee stock ownership plans and shareholder wealth: An empirical investigation. Financial Management 19, 48-58.

Chang, S., Mayers, D., 1992. Managerial vote ownership and shareholder wealth: Evidence from employee stock ownership plans. Journal of Financial Economics 32, 103-131.

Chaplinsky, S., Niehaus, G., 1990. The tax and distributional effects of leveraged ESOPs. Financial Management 19, 29-38.

Gordon, L., Pound, J., 1990. ESOPs and corporate control. Journal of Financial Economics 27, 525-555.

Jensen, M., Meckling W., 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics 3, 305-360.

Jensen, M., Meckling W., 1979. Rights and production functions: An application to labor-managed firms and codetermination. Journal of Business 52, 469-506.

Lougee, B., 1999. An empirical investigation of the implications of employee ownership for the agency problem and the information content of earnings. Ph.D. dissertation, Cornell University, Ithaca, NY.

McElrath, R. G., Rowan, R. L., 1992. The American labor movement and employee ownership: Objections to and uses of employee stock ownership plans. Journal of Labor Research 13, 99-120.

Morck, R., Shleifer, A., Vishny, R., 1988. Managerial ownership and market valuation: An empirical analysis. Journal of Financial Economics 20, 293-315.

Morck, R., Shleifer, A., Vishny, R., 1989. Alternative mechanisms for corporate control. American Economic Review 89, 842-852.

Morck, R., Yang, F., 2001. Growing value of S&P 500 membership. Working paper, University of Alberta, Edmonton, AB

Park, S., Song, M. H., 1995. Employee stock ownership plans, firm performance, and monitoring by outside blockholders. Financial Management 24, 52-65.

Scholes, M,, Wolfson, M., 1990. Employee stock ownership plans and corporate restructuring: Myths and reality. Financial Management 19, 12-28.

Figure 3.1: Shareholders' and labor's claim on the firm's cash flow.

In periods when the firm's cash flow is lower than ω (that is, the region to the left of ω in the graph), labor receives all cash flow in the form of wages. If cash flow is greater than ω (the region to the right of ω), then labor receives its fixed payment (ω) while shareholders receive the excess of cash flow over ω in the form of dividends.

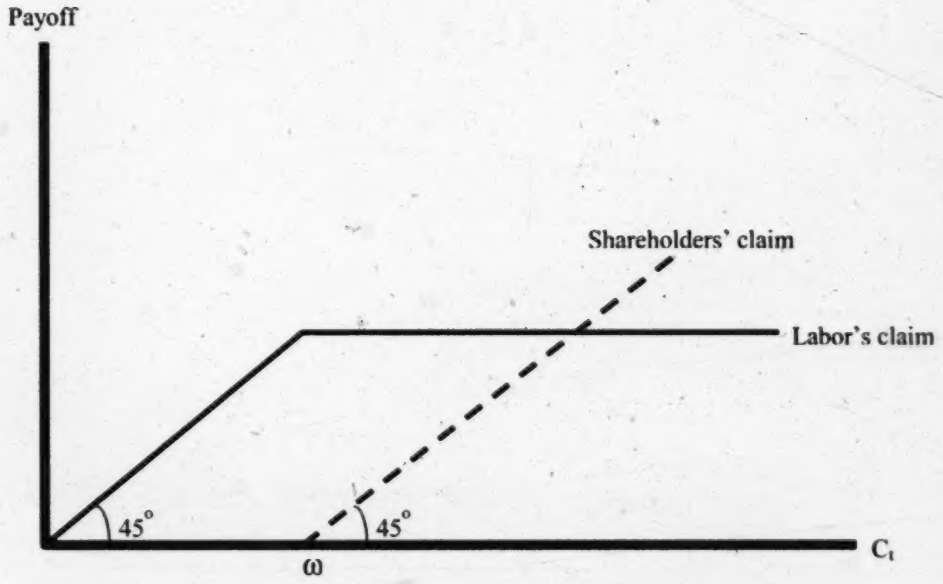

Table 3.1: Univariate statistics for main variables.

LVOICE is the proportion of total equity voted by labor.

Corporate governance variables are defined as follows: *dK/K* is net capital expenditure on property, plant and equipment, normalized by total net property, plant and equipment. *R&D/K* is research and development expenditure normalized by net property, plant and equipment. *ROA* is operating income before depreciation, interest, and taxes divided by total assets. *ROS* is operating income before depreciation, interest, and taxes divided by total sales. *VOLROA* is standard deviation of *ROA* over three years. *VOLROS* is standard deviation of *ROS* over three years. *MTB* is market-to-book ratio. Average Tobin's q ratio was obtained from Morck and Yang (2001). *ΔSALES* is average three-year sales growth. *ΔASSETS* is average three-year assets growth. *ΔSTAFF* is average three-year labor force growth. *ALPHA* is the residual of industry-specific Cobb-Douglas production functions estimated for each two-digit SIC industry group. *SLE* is real sales per employee. All variables are averaged over 1994 to 1998.

Control variables in the regressions are defined as follows: Past ROA is average return on assets over 1980 to 1989. Past *ROS* is average return on sales over 1980 to 1989. Past quick ratio is average quick ratio over 1980 to 1989. Past interest coverage ratio is average interest coverage ratio over 1980 to 1989. Size is average natural logarithm of real assets over 1994 to 1998. Leverage is average long-term debt to total assets over 1994 to 1998.

Statistics are for combined labor voice and full control samples.

Table 3.1 continued

Variable		Combined samples	Mean	Median	Standard deviation	Minimum	Maximum	percent zero
Labor Voting Control								
Labor voting stake	*LVOICE*	3015	1.0422	0.0000	4.6880	0.0000	75.3400	-
Corporate Governance Variables								
Capital investment rate	*dK/K*	2968	0.1321	0.0749	0.3010	-0.9428	3.7716	-
R&D investment rate	*R&D/K*	2965	0.2730	0.0000	0.8151	0.0000	9.4213	59.09
Standard deviation of return on assets	*VOLROA*	3015	0.0685	0.0382	0.0964	0.0005	1.3985	-
Standard deviation of return on sales	*VOLROS*	2996	0.1139	0.0337	0.3261	0.0006	4.2727	-
Sales growth rate	*ΔSALES*	3005	0.1861	0.0821	0.4190	-0.3318	7.1101	-
Assets growth rate	*ΔASSETS*	3014	0.1672	0.0783	0.3446	-0.2913	5.1109	-
Job creation rate	*ΔSTAFF*	2922	0.1319	0.0524	0.3619	-0.3254	5.4167	-
Return on assets	*ROA*	3015	0.0880	0.1170	0.1844	-2.0828	1.1023	-
Return on sales	*ROS*	2999	0.0886	0.1128	0.4012	-4.9030	2.8813	-
Market to book ratio	*MTB*	2968	1.7551	1.3908	1.0756	0.3070	8.7580	-
Average Tobin's q ratio	*Q*	2473	1.9326	1.4650	1.5476	0.0675	18.9124	-
Total factor productivity	*ALPHA*	2836	0.0174	-0.0060	0.5165	-1.9350	3.5885	-
Labor productivity	*SLE*	2943	288.530	158.770	1281.44	0.0560	56919.00	-
Control Variables								
Past ROA		2892	0.1223	0.1395	0.1508	-0.9260	0.7940	-
Past ROS		2787	0.1379	0.1205	0.1908	-0.9722	0.9940	-
Past quick ratio		2652	2.4573	1.3493	7.9468	0.0020	324.556	-
Past interest coverage ratio		2668	18.9933	5.8395	61.4610	-408.750	477.705	-
Size		3007	5.3398	5.1210	2.1232	1.6113	12.7465	-
Leverage		2999	0.1810	0.1480	0.1665	0.0000	0.9710	-

Table 3.2: Univariate statistics for multiple regression control variables.

Lagged ROA is average return on assets over 1980 to 1989. Lagged ROS is average return on sales over 1980 to 1989. Lagged quick ratio is average quick ratio over 1980 to 1989. Lagged interest coverage ratio is average interest coverage ratio over 1980 to 1989. Size is average natural logarithm of real assets over 1994 to 1998. Leverage is average long-term debt to total assets over 1994 to 1998.

	Labor voice firms			Other firms				Sign
Variable	N	Mean	Median	N	Mean	Median	t-test	rank
Lagged ROA	211	0.141	0.146	2681	0.121	0.139	3.391 (0.00)	0.942 (0.35)
Lagged ROS	210	0.136	0.113	2577	0.138	0.121	-0.271 (0.79)	-0.654 (0.51)
Lagged quick ratio	179	1.470	1.148	2473	2.529	1.367	-5.573 (0.00)	-3.617 (0.00)
Lagged interest coverage ratio	186	15.704	7.084	2482	19.240	5.740	-1.375 (0.17)	2.894 (0.00)
Size	211	6.654	6.691	2796	5.241	4.996	9.586 (0.00)	9.224 (0.00)
Leverage	211	0.191	0.280	2788	0.180	0.147	0.976 (0.33)	2.152 (0.03)

Table 3.3: Univariate results for long-term investments.

'Labor voice' firms have five percent or more voting control exercised by employees. 'Other firms' in the 'full sample comparison' are all firms with no reported labor ownership. For each labor voice firm, we choose one control firm from the same three-digit SIC industry group with assets within 30% of the 'labor voice' firm's assets. A match could not be found in three-digit SIC for 57 firms. For these firms, we select control firms from the two-digit SIC industry group. These firms constitute the 'other firms' sample in the 'size and industry matched pair' comparisons. A firm's capital investment rate, *dK/K*, is net capital expenditure on property, plant and equipment, normalized by total net property, plant and equipment. Research and development investment rate, *R&D/K*, is research and development expenditure normalized by net property, plant and equipment. All variables are averages measured over 1994 to 1998.

	Labor voice firms			Other firms				Sign
Variable	N	Mean	Median	N	Mean	Median	t-test	rank
A. Full Sample Comparison								
Capital investment rate *dK/K*	211	0.064	0.039	2757	0.137	0.080	-5.322 (0.00)	-3.759 (0.00)
R&D investment rate *R&D/K*	211	0.074	0.000	2754	0.288	0.000	-10.322 (0.00)	-1.823 (0.07)
B. Size & Industry Matched Pairs								
Capital investment rate *dK/K*	189	0.059	0.035	189	0.120	0.075	-2.664 (0.01)	-3.511 (0.00)
R&D investment rate *R&D/K*	189	0.079	0.000	189	0.134	0.000	-1.609 (0.11)	0.514 (0.61)

Table 3.4: Long-term investments and labor control.

Prior performance is average return on assets over 1980 to 1989. Prior liquidity is average quick ratio over 1980 to 1989. Size is average natural logarithm of real assets over 1994 to 1998. Leverage is average long-term debt to total assets over 1994 to 1998. Models I and III distinguish labor voice firms from control firms with a dummy variable, set to one if labor-voted equity stake is at least five percent and to zero otherwise. Models II and IV measure labor voice by the percentage of equity voted by labor. Each regression includes three-digit SIC industry dummies. The dependent variable is net capital expenditure divided by net property, plant and equipment for Models I and II, and R&D expenditure divided by net property, plant and equipment for Models III and IV. Both are averages over 1994 to 1998. P-values are shown in parentheses.

	Model I	Model II	Model III	Model IV
Dependent Variable:	***Net Capital Investment***	***Net Capital Investment***	***R&D Expenditure***	***R&D Expenditure***
Intercept	0.1120 (0.37)	0.1134 (0.36)	-6.3100 (0.11)	-6.3516 (0.11)
Labor voice dummy	-0.0529 (0.00)	---	0.6481 (0.36)	---
Labor voice level	---	-0.0025 (0.01)	---	-0.0029 (0.94)
Prior Performance	-0.0780 (0.00)	-0.0782 (0.00)	-4.2820 (0.00)	-4.2852 (0.00)
Prior Liquidity	0.0006 (0.56)	0.0006 (0.57)	0.0056 (0.81)	0.0056 (0.81)
Size	0.0137 (0.00)	0.0134 (0.00)	0.3991 (0.00)	0.4107 (0.00)
Leverage	-0.0479 (0.13)	-0.0492 (0.12)	-5.6153 (0.00)	-5.5875 (0.00)
Sample Size	2580	2580	2620	2620
R-squared	0.150	0.149	---	---
Model F (p-value)	1.60 (0.00)	1.60 (0.00)	---	---

Table 3.5: Univariate results for operating risk.

'Labor voice' firms have five percent or more voting control exercised by employees. 'Other firms' in the 'full sample comparison' are all firms with no reported labor ownership. For each labor voice firm, we choose one control firm from the same three-digit SIC industry group with assets within 30% of the 'labor voice' firm's assets. A match could not be found in three-digit SIC for 57 firms. For these firms, we select control firms from the two-digit SIC industry group. These firms constitute the 'other firms' sample in the 'size and industry matched pair' comparisons. Our measures of operating risk are the standard deviation of a firm's return on assets, and the standard deviation of its return on sales. Both are three year standard deviations averaged over 1994 to 1998.

	Labor voice firms			Other firms				Sign
Variable	N	Mean	Median	N	Mean	Median	t-test	rank
A. Full Sample Comparison								
Standard Deviation of Return on assets	211	0.044	0.027	2804	0.070	0.039	-3.899 (0.00)	-6.175 (0.00)
Standard Deviation of Return on sales	211	0.042	0.026	2785	0.119	0.035	-9.380 (0.00)	-4.747 (0.00)
B. Size & Industry Matched Pairs								
Standard Deviation of Return on assets	189	0.039	0.029	189	0.049	0.027	-1.754 (0.08)	-0.164 (0.87)
Standard Deviation of Return on assets	188	0.040	0.028	188	0.050	0.027	-1.738 (0.08)	0.122 (0.90)

Table 3.6: Operating risk and labor control.

The dependent variable in each regression is average three-year standard deviation of return on assets over 1994 to 1998. Prior performance is average return on assets over 1980 to 1989. Prior liquidity is average quick ratio over 1980 to 1989. Size is average natural logarithm of real assets over 1994 to 1998. Leverage is average long-term debt to total assets over 1994 to 1998. Model I distinguishes labor voice firms from control firms with a dummy variable set to one if labor-voted equity stake is at least five percent and to zero otherwise. Models II measures labor voice by the percentage of equity voted by labor. Each regression includes three-digit SIC industry dummies. P-values are shown in parentheses.

	Model I	Model II
Intercept	0.1405 (0.00)	0.1404 (0.00)
Labor voice dummy	-0.0016 (0.63)	---
Labor voice level	---	-0.0002 (0.27)
Prior Performance	-0.0235 (0.00)	-0.0235 (0.00)
Prior liquidity	-0.0001 (0.35)	-0.0001 (0.35)
Size	-0.0071 (0.00)	-0.0071 (0.00)
Leverage	0.0142 (0.02)	0.0142 (0.02)
Sample size	2510	2510
R-squared	0.326	0.326
Model F (p-value)	4.31 (0.00)	4.32 (0.00)

Table 3.7: Univariate results for growth rates.

'Labor voice' firms have five percent or more voting control exercised by employees. 'Other firms' in the 'full sample comparison' are all firms with no reported labor ownership. For each labor voice firm, we choose one control firm from the same three-digit SIC industry group with assets within 30% of the 'labor voice' firm's assets. A match could not be found in three-digit SIC for 57 firms. For these firms, we select control firms from the two-digit SIC industry group. These firms constitute the 'other firms' sample in the 'size and industry matched pair' comparisons. Sales growth rate, *ΔSALES*, assets growth rate, *ΔASSETS*, and job creation rate, *ΔSTAFF*, are averages over 1994 to 1998.

	Labor voice firms			Other firms				Sign
Variable	N	Mean	Median	N	Mean	Median	t-test	rank
A: Full Sample Comparison								
Sales growth rate *ΔSALES*	211	0.071	0.041	2794	0.195	0.087	-10.449 (0.00)	-4.947 (0.00)
Assets growth rate *ΔASSETS*	211	0.086	0.046	2803	0.173	0.082	-6.946 (0.00)	-3.445 (0.00)
Job growth rate *ΔSTAFF*	203	0.034	0.016	2719	0.139	0.058	-9.788 (0.00)	-5.523 (0.00)
B: Size & Industry Matched Pairs								
Sales growth rate *ΔSALES*	190	0.066	0.039	190	0.151	0.097	-3.702 (0.00)	-4.179 (0.00)
Assets growth rate *ΔASSETS*	190	0.081	0.040	190	0.148	0.097	-3.395 (0.00)	-3.716 (0.00)
Job growth rate *ΔSTAFF*	180	0.028	0.010	180	0.106	0.058	-4.157 (0.00)	-4.051 (0.00)

Table 3.8: Corporate growth and labor control.

Sales growth is three-year average growth rate of real sales over 1994 to 1998. Asset growth and staff growth are constructed analogously. Prior performance is average return on assets over 1980 to 1989. Prior liquidity is average quick ratio over 1980 to 1989. Size is average natural logarithm of real assets over 1994 to 1998. Leverage is average long-term debt to total assets over 1994 to 1998. Models I, III, and V distinguish labor voice firms from control firms with a dummy variable, set to one if labor-voted equity stake is at least five percent and to zero otherwise. Models II, IV, and VI measure labor voice by the percentage of equity voted by labor. Each regression includes three-digit SIC industry dummies. Dependent variables are averages over 1994 to 1998. P-values are shown in parentheses.

	Model I	Model II	Model III	Model IV	Model V	Model VI
Dependent Variable:	***Sales growth***	***Sales growth***	***Asset growth***	***Asset growth***	***Staff growth***	***Staff growth***
Intercept	-0.1865 (0.06)	-0.1852 (0.07)	-0.2217 (0.04)	-0.2204 (0.04)	-0.2842 (0.01)	-0.2825 (0.01)
Labor voice dummy	-0.0496 (0.00)	---	-0.0462 (0.00)	---	-0.0551 (0.00)	---
Labor voice level	---	-0.0024 (0.00)	---	-0.0021 (0.01)	---	-0.0024 (0.00)
Prior performance	-0.1831 (0.00)	-0.1832 (0.00)	-0.0709 (0.00)	-0.0710 (0.00)	-0.0482 (0.00)	-0.0485 (0.00)
Prior liquidity	0.0037 (0.00)	0.0037 (0.00)	-0.0001 (0.79)	-0.0001 (0.78)	0.0049 (0.00)	0.0049 (0.00)
Size	0.0173 (0.00)	0.0170 (0.00)	0.0163 (0.00)	0.0160 (0.00)	0.0120 (0.00)	0.0116 (0.00)
Leverage	-0.0131 (0.61)	-0.0143 (0.58)	0.0046 (0.86)	0.0035 (0.90)	0.0307 (0.23)	0.0291 (0.26)
Sample size	2543	2543	2573	2573	2554	2554
R-squared	0.217	0.216	0.173	0.172	0.183	0.182
Model F (p-value)	2.48 (0.00)	2.47 (0.00)	1.90 (0.00)	1.89 (0.00)	2.02 (0.00)	2.00 (0.00)

Table 3.9: Univariate results for short-term operating performance.

'Labor voice' firms have five percent or more voting control exercised by employees. 'Other firms' in the 'full sample comparison' are all firms with no reported labor ownership. For each labor voice firm, we choose one control firm from the same three-digit SIC industry group with assets within 30% of the 'labor voice' firm's assets. A match could not be found in three-digit SIC for 57 firms. For these firms, we select control firms from the two-digit SIC industry group. These firms constitute the 'other firms' sample in the 'size and industry matched pair' comparisons. Our short-term financial performance measures are return on assets, *ROA*, defined as operating income before depreciation, interest, and taxes divided by total assets, and return on sales, *ROS*, defined as operating income before depreciation, interest, and taxes divided by total sales. Both are averages over 1994 to 1998.

	Labor voice firms			Other firms				Sign
Variable	N	Mean	Median	N	Mean	Median	t-test	rank
A: Full Sample Comparison								
Return on assets *ROA*	211	0.112	0.123	2804	0.086	0.117	3.285 (0.00)	0.876 (0.38)
Return on sales *ROS*	211	0.141	0.122	2788	0.085	0.112	4.706 (0.00)	1.404 (0.16)
B: Size & Industry Matched Pairs								
Return on assets *ROA*	189	0.110	0.121	189	0.117	0.128	-0.694 (0.49)	-0.946 (0.34)
Return on sales *ROS*	189	0.132	0.121	189	0.152	0.137	-1.446 (0.15)	-1.816 (0.07)

Table 3.10: Short-term operating performance and labor control.

Prior performance is average return on assets over 1980 to 1989. Prior liquidity is average quick ratio over 1980 to 1989. Size is average natural logarithm of real assets over 1994 to 1998. Leverage is average long-term debt to total assets over 1994 to 1998. Models I and III distinguish labor voice firms from control firms with a dummy variable, set to one if labor-voted equity stake is at least five percent and to zero otherwise. Models II and IV measure labor voice by the percentage of equity voted by labor. Each regression includes three-digit SIC industry dummies. Dependent variables are averages over 1994 to 1998. P-values are shown in parentheses.

	Model I	Model II	Model III	Model IV
Dependent Variable:	***Return on assets***	***Return on assets***	***Return on sales***	***Return on sales***
Intercept	-0.1202 (0.09)	-0.1197 (0.09)	-0.0365 (0.53)	-0.0361 (0.53)
Labor voice dummy	-0.0129 (0.21)	-	-0.0172 (0.04)	-
Labor voice level	-	-0.0005 (0.33)	-	-0.0008 (0.08)
Prior Performance	0.1318 (0.00)	0.1318 (0.00)	0.1055 (0.00)	0.1055 (0.00)
Prior liquidity	-0.0002 (0.48)	-0.0002 (0.47)	-0.0006 (0.03)	-0.0006 (0.03)
Size	0.0185 (0.00)	0.0184 (0.00)	0.0201 (0.00)	0.0200 (0.00)
Leverage	-0.0691 (0.00)	-0.0694 (0.00)	-0.0272 (0.07)	-0.0276 (0.07)
Sample size	2620	2620	2484	2484
R-squared	0.321	0.321	0.452	0.452
Model F (p-value)	4.39 (0.00)	4.39 (0.00)	7.25 (0.00)	7.24 (0.00)

Table 3.11: Univariate results for shareholder value creation.

'Labor voice' firms have five percent or more voting control exercised by employees. 'Other firms' in the 'full sample comparison' are all firms with no reported labor ownership. For each labor voice firm, we choose one control firm from the same three-digit SIC industry group with assets within 30% of the 'labor voice' firm's assets. A match could not be found in three-digit SIC for 57 firms. For these firms, we select control firms from the two-digit SIC industry group. These firms constitute the 'other firms' sample in the 'size and industry matched pair' comparisons. We measure shareholder value creation using a simple market to book ratio, *MTB*, and a more sophisticated estimate of average Tobin's q, *Q*, taken from Morck and Yang (2001). Both are averages over 1994 to 1998.

	Labor voice firms			Other firms				
Variable	N	Mean	Median	N	Mean	Median	t-test	Sign rank
A: Full Sample Comparison								
Market to Book ratio *MTB*	208	1.446	1.282	2760	1.778	1.407	-7.113 (0.00)	-3.777 (0.00)
Average Tobin's q *Q*	161	1.449	1.213	2312	1.966	1.495	-6.345 (0.00)	-5.206 (0.00)
B: Size & Industry Matched Pairs								
Market to Book ratio *MTB*	183	1.437	1.243	183	1.629	1.344	-2.506 (0.01)	-2.561 (0.01)
Average Tobin's q *Q*	138	1.465	1.205	138	1.884	1.447	-2.413 (0.02)	-3.354 (0.00)

Table 3.12: Shareholder value creation and labor control.

Prior performance is average return on assets over 1980 to 1989. Prior liquidity is average quick ratio over 1980 to 1989. Size is average natural logarithm of real assets over 1994 to 1998. Leverage is average long-term debt to total assets over 1994 to 1998. Models I and III distinguish labor voice firms from control firms with a dummy variable, set to one if labor-voted equity stake is at least five percent and to zero otherwise. Models II and IV measures labor voice by the percentage of equity voted by labor. Each regression includes three-digit SIC industry dummies. P-values are shown in parentheses.

	Model I	Model II	Model III	Model IV
Dependent Variable:	***Market-to-book Ratio***	***Market-to-book Ratio***	***Tobin's Q Ratio***	***Tobin's Q Ratio***
Intercept	1.5084 (0.01)	1.5090 (0.01)	0.6384 (0.50)	0.6436 (0.50)
Labor voice dummy	-0.1452 (0.09)	---	-0. 2481 (0.04)	---
Labor voice level	---	-0.0105 (0.03)	---	-0. 0115 (0.08)
Prior Performance	-0.7319 (0.00)	-0.7327 (0.00)	-0. 4073 (0.00)	-0. 4092 (0.00)
Prior liquidity	0.0053 (0.04)	0.0053 (0.04)	0.0504 (0.00)	0. 0503 (0.00)
Size	0.0864 (0.00)	0.0863 (0.00)	0.0807 (0.00)	0. 0794 (0.00)
Leverage	-0.8577 (0.00)	-0.8589 (0.00)	-0. 5551 (0.01)	-0. 5590 (0.01)
Sample size	2595	2595	2224	2224
R-squared	0.314	0.314	0.280	0.280
Model F (p-value)	4.19 (0.00)	4.21 (0.00)	3.28 (0.00)	3.27 (0.00)

Table 3.13: Univariate results for productivity.

'Labor voice' firms have five percent or more voting control exercised by employees. 'Other firms' in the 'full sample comparison' are all firms with no reported labor ownership. For each labor voice firm, we choose one control firm from the same three-digit SIC industry group with assets within 30% of the 'labor voice' firm's assets. A match could not be found in three-digit SIC for 57 firms. For these firms, we select control firms from the two-digit SIC industry group. These firms constitute the 'other firms' sample in the 'size and industry matched pair' comparisons. We measure total factor productivity, *ALPHA*, as the residual of an industry-specific Cobb-Douglas production function of labor and total assets estimated for each two-digit SIC industry group over 1994 to 1998. Our measure of labor productivity, *SLE*, is sales per employee in thousands of 1994 dollars, and is also averaged over 1994 to 1998.

	Labor voice firms			Other firms				Sign
Variable	N	Mean	Median	N	Mean	Median	t-test	rank
A: Full Sample Comparison								
Total factor productivity ALPHA	204	-0.030	-0.040	2632	0.021	-0.001	-1.863 (0.06)	-1.501 (0.13)
Labor productivity SLE	204	230	159	2739	293	159	-2.077 (0.04)	0.861 (0.39)
B: Size & Industry Matched Pairs								
Total factor productivity ALPHA	175	-0.045	-0.045	175	0.096	0.021	-3.370 (0.00)	-2.868 (0.00)
Labor productivity SLE	181	215	159	181	275	184	-2.259 (0.02)	-2.454 (0.01)

Table 3.14: Productivity and labor control.

Total factor productivity (TFP) residuals were obtained from industry-specific Cobb-Douglas production functions estimated for each two-digit SIC industry group. Prior performance is average return on assets over 1980 to 1989. Prior liquidity is average quick ratio over 1980 to 1989. Size is average natural logarithm of real assets. Leverage is average long-term debt to total assets. Models I and III distinguish labor voice firms from control firms with a dummy variable, set to one if labor-voted equity stake is at least five percent and to zero otherwise. Models II and IV measure labor voice by the percentage of equity voted by labor. Each regression includes three-digit SIC industry dummies. P-values are shown in parentheses.

	Model I	Model II	Model III	Model IV
Dependent variable:	***TFP Residual***	***TFP Residual***	***Sales per employee***	***Sales per employee***
Intercept	-0.4110 (0.11)	-0.4086 (0.11)	85.9260 (0.09)	86.5909 (0.09)
Labor voice dummy	-0.0675 (0.03)	---	-18.0213 (0.00)	---
Labor voice level	---	-0.0021 (0.21)	---	-0.7228 (0.03)
Prior Performance	0.0894 (0.02)	0.0893 (0.02)	19.5389 (0.00)	19.4720 (0.00)
Prior liquidity	0.0020 (0.05)	0.0020 (0.06)	0.0075 (0.97)	0.0055 (0.98)
Size	0.0273 (0.00)	0.0266 (0.00)	10.0574 (0.00)	9.9212 (0.00)
Leverage	-0.2380 (0.00)	-0.2406 (0.00)	-31.6439 (0.00)	-32.0819 (0.00)
Sample size	2397	2397	2405	2405
R-squared	0.208	0.207	0.529	0.528
Model F (p-value)	2.24 (0.00)	2.23 (0.00)	9.54 (0.00)	9.51 (0.00)

CHAPTER 4

GOVERNANCE STRUCTURE AND BIDDER RETURN

4.1. Introduction

It is well known that the average return to bidders in an acquisition is either zero or slightly negative. Nevertheless, there is considerable variation in the abnormal return earned by different bidding firms. For a sample of 128 tender offers made between 1980 and 1991, Byrd and Hickman (1992) report average bidder return of -1.23% with a standard deviation of 4.44%. Similarly, Morck, Shleifer, and Vishny (1990) document an average return of -0.70% with a standard deviation of 1.22% for a sample of 326 acquisitions occurring between 1975 and 1987.

It is customary to explain the variation in bidder returns in terms of the characteristics of the acquisition transaction. Jarrell and Poulsen (1989) document that bidder return in tender offers is negative if the bid is opposed by target management but increasing in the size of the target relative to the size of the bidder. Morck, Shleifer, and Vishny (1990) show that the bidder earns less if it acquires a rapidly growing target, if it diversifies, or if there are multiple bidders. Similarly, Schwert (2000) finds lower bidder returns when the target is in play before the first bid or if the bidder is involved in an auction for the target but reports higher returns for all-cash bids.

While an examination of acquisition characteristics reveals interesting information, this paper takes the approach of relating bidder returns to the acquirer's governance structure. The logic behind this is quite simple. The decision to launch a takeover bid is

entirely a prerogative of the acquirer's board of directors and observed bid characteristics are choice or strategy variables for the bidder. Since the board makes these choices, the relationship between governance and acquisition returns is of a more basic nature than the relationship between such returns and the structure of the transaction. In addition, understanding this relation provides an insight into those factors that affect the effectiveness of corporate governance, especially in situations involving large, discrete transactions such as an acquisition.

This approach is not entirely new. Byrd and Hickman (1992), hereafter BH, relate the bidder's return in tender offers to the presence of non-affiliated outside directors. They find that bidding firms in which at least 50% of board members are independent directors have significantly higher announcement-date abnormal returns than other bidders. For a sample of 225 bank acquisitions announced between 1982 and 1987, Subrahmanyam, Rangan, and Rosenstein (1997), hereafter SRR, find a negative relationship between abnormal returns and the proportion of outside directors but a positive effect for the number of other outside directorships held by independent directors.

This paper extends prior work by incorporating other important dimensions of corporate governance in addition to the effect of outside directors. These dimensions include the leadership structure of the board, CEO age, tenure, and membership on outside boards, CEO and board stock ownership, and the degree and quality of board monitoring. This permits a greater understanding of the interrelationship among the various governance dimensions and how they collectively affect corporate performance in an acquisition context. The framework is also consistent with Agrawal and Knoeber (1996) who

demonstrate that a multi-dimensional approach is crucial to understanding the effect of governance and control on corporate performance.

I proceed with the analysis in two stages. The first consists of univariate comparisons of best and worst performing bidders on each of the governance variables. I find that none of the individual variables significantly differentiates the two classes of bidders. At the second stage, I estimate regressions relating acquisition return to governance dimensions. I find a positive association between return and the CEO's tenure and stock ownership. Similarly, outsider-dominated and smaller boards perform better. On the other hand, bidder return is significantly lower when the CEO is near retirement. The findings are not sensitive to the event window over which abnormal return is measured and remain unchanged when bid characteristics are included in the regressions.

These results suggest that governance plays an important role in minimizing the possibility of a divergence of interest between management and outside shareholders, especially in large transactions where the opportunity for managerial self-serving may be more abounding. They also illustrate the importance of the CEO's incentives in the process of aligning shareholder and management interests and the sources of those incentives. All else equal, CEOs who have invested a lot of their human and reputational capital in their firms and who have many years to face the consequences of a bad decision are less likely to make value-destroying acquisitions. Finally, the results provide additional insight into the interplay of factors that affect the effectiveness of corporate boards, namely, board size and the dominance of independent directors.

The remainder of the paper is organized as follows. Section 4.2 discusses the various dimensions of corporate governance examined in the study and presents an overview of existing work in the area. The data is described in Section 4.3, while Section 4.4 contains my empirical analysis and discussion. Section 4.5 provides concluding remarks.

4.2. Dimensions of Corporate Governance

John and Senbet (1998) define corporate governance as a means by which various stakeholders exert control over a corporation by exercising certain rights as established in the existing legal and regulatory frameworks as well as corporate bylaws. At the center of corporate governance is the board of directors. In common law countries, the board is the primary internal control mechanism through which shareholders exercise control over management with a view to minimizing any divergence of interests that may exist between the two parties. In this capacity, the board has the fiduciary authority and responsibility to hire and fire top management, monitor and approve strategic initiatives, evaluate the performance of top management, and reward or punish that performance as the case may be.

The board is not involved in day-to-day operations of the corporation. Rather, it acts to provide strategic directions or when significant issues arise. An example of such issues is when the firm seeks to acquire another firm. An acquisition involves substantial financial outlay and may provide the acquirer with important operating and product market synergies. However, it also presents management with the opportunity to

deliberately (for example, see Jensen, 1986 and associated studies) or inadvertently act in a manner that conflicts with shareholder interest.

Not surprisingly, the sources of the gains or losses to shareholders of an acquiring firm have received extensive attention in the literature. Specifically, prior studies have considered the effects of the structure of the transaction.[11] However, besides BH and SRR, not much is known about the relationship between acquisition returns and the structure of corporate governance in the bidding firm.

Understanding this relationship is important for at least two reasons. First, given the opportunity for severe agency problems in the acquisition decisions of the bidding firm and the significant role the board could play in minimizing such problems, it is important to know the impact of the board's structure on the effectiveness with which it performs its monitoring duties in this situation. In addition, while the question of how the nature of an acquisition affects the return to the bidding firm is an interesting issue, it is also the case that observed bid characteristics are choice variables for the board of the acquirer. For example, prior work documents that bidder returns are significantly affected by whether or not the acquisition is hostile. However, the decision to make a hostile bid is a strategy choice for the bidder, which "presumably reflects a judgment that a favorable outcome is more likely from the hostile bid than from private negotiations with the target firm, and that a hostile bid is better than making no bid at all." (Schwert 2000, p. 2632). Similar arguments could be made for the decision to acquire a fast

[11] Important characteristics identified include target management opposition, target anti-takeover defenses, mode of payment, relative size of the target to the bidder, target sales growth history, and if the acquisition is a diversifying act on the part of the bidder. For details, see Jarrell and Poulsen (1989), Morck, et al. (1990), and Schwert (2000).

growing target, a target operating in an unrelated industry, pay by cash only, and other bid characteristics.

An understanding of what constitutes better choice provides an insight into the effectiveness of corporate governance since a board that monitors effectively should make better choices. However, from the point of view of shareholders, the relationship between governance and acquisition performance is more fundamental than the relationship between acquisition returns and observed bid characteristics because it allows shareholders to put in place, beforehand, governance structures that are likely to ensure value-maximizing decisions. If shareholders only know the effects of bid characteristics on acquisition returns, then they are constrained to reactionary measures aimed at preventing their board from making bad choices, a constraint exacerbated by the business judgment rule under which the courts are reluctant to second-guess managerial decisions.

BH are perhaps the first to relate acquisition gains to corporate governance. In their study of 128 tender offers made from 1980 to 1987, they consider the impact of board independence, as measured by the proportion of non-affiliated board members, on the effectiveness of board monitoring in acquisition situations and find that boards dominated by independent directors make better acquisition decisions. On the other hand, SRR perform a similar study using bank acquisition data but find abnormal returns are decreasing in the proportion of outside directors.

The contrasting findings of BH and SRR cannot be attributed to differences in sample periods since both analyze roughly the same time frame, 1980 to 1987 for BH and

1982 to 1987 for SRR. SRR attribute their results to the distinctive statutory and regulatory environment within which banks operate. Specifically, they suggest that banks may choose outside directors for their regulatory expertise, rather than for their ability to monitor management. At the same time, banking law widens the scope of director responsibility to depositors and the Federal Deposit Insurance Corporation in addition to shareholders. This, SRR argue, constrains the available pool of qualified outside directors and may affect their monitoring effectiveness.

Besides the foregoing, it is possible that BH and SRR document contrasting results because each considers only a single aspect of corporate governance, namely, the role of outside directors. Agrawal and Knoeber (1996) show that the role of individual governance and control mechanisms is better understood when several of them are considered simultaneously. This is the approach employed in this paper. I extend BH and SRR by analyzing a broader spectrum of corporate governance dimensions. Specifically, in addition to the role of non-affiliated directors, I examine the effects of the leadership structure of the board, the degree of board oversight, and several CEO attributes on the gains or losses to an acquiring firm. Each of these dimensions is discussed in turn below.

4.2.1 Leadership structure

The two most important positions on a corporation's board are those of the chairman and the chief executive officer, CEO. The CEO heads the company's internal management organization while the chairman oversees the corporation's decision control organization. Following Brickley, Coles, and Jarrell (1997), I define a corporation as

having unitary leadership if the positions of chairman and CEO are held by the same individual, and dual leadership if the positions are vested in different persons. Given the importance and particular nature of the chairman's role, shareholder activists and regulators often pressure companies against unitary leadership.[12] They argue that combining the two positions gives the CEO de facto control of the corporation and allows him unfettered powers over decision initiation and implementation, as well as ratification and control.

In contrast, Brickley, Coles, and Jarrell (1997) point out that there are important costs to maintaining a dual leadership structure. For example, agency costs may arise from the behavior of a non-CEO chairman who may be in a position to pursue self-serving actions that hurt shareholder interest. There is also the cost of transmitting information between the CEO and the chairman. Other costs include the opportunity for blame shifting in case of poor corporate performance, and possibly inconsistent decision making with shared authority.

Since there are costs and benefits to each leadership structure, the question of which is preferable is an empirical issue. Rechner and Dalton (1991) study 141 firms with unitary or dual leadership structures throughout the period 1978 - 1983. They find that dual leadership firms perform better on a number of accounting-based performance measures, including return on equity and profit margin. Pi and Timme (1993) investigate the effect of leadership structure on costs and performance in the banking industry. Their

[12] See the Report of the Committee on the Financial Aspects of Corporate Governance, otherwise known as the Cadbury Report (1992) for example.

results suggest that dual leadership firms have lower costs and higher accounting returns than unitary leadership firms.

More recently, Baliga, Moyer, and Rao (1996) report no discernible differences in performance that can be attributed to a firm's leadership structure. Brickley, Coles, and Jarrell (1997) use a sample of 661 firms from the 1989 Forbes survey of executive compensation and find that unitary leadership structure is not associated with inferior performance, either in terms of accounting or market returns, and that changes in leadership structures have no systematic effects on stock prices.

Given that an acquisition is a significant corporate activity, leadership structure should presumably play an important role in explaining the return to different bidding firms. It is difficult, however, to predict the direction of such a relationship since it depends on the relative sizes of the costs and benefits of each leadership structure. To the best of the author's knowledge, this study provides the first empirical evidence on the effect of leadership structure on acquisition returns.

4.2.2 Outside directors and board independence

Most corporate boards consist of a mixture of directors who are also employees of the firm and outside directors who have no employment relationship with the company. Outside directors are usually people with significant reputational capital acquired in other contexts. They enhance the board's effectiveness through increased objectivity and by serving as a reservoir of outside expertise upon which the board can draw as the need arises. Thus, it is often suggested that boards dominated by outsiders are more likely to act in the best interest of shareholders.

However, if other control mechanisms such as product market competition, managerial compensation contracts, the market for managerial labor, and the market for corporate control impose sufficient discipline on management, then the value of outside directors may be negligible. The effectiveness of outside directors may also be affected by the fact that management often decides who gets recommended for board appointment and provides the bulk of the information analyzed by non-employee directors.[13]

Available empirical evidence suggests that outside directors enhance the board's effectiveness. Brickley and James (1987) show that managerial consumption of perquisites is lower when there are outside directors on the board. Weisbach (1988) finds that a poorly performing CEO is more likely to be replaced as the proportion of outsiders on the board increases. Similarly, Lee et al. (1992) document that MBO announcement returns are larger when the board is dominated by independent directors. Rosenstein and Wyatt (1990) provide more direct evidence, documenting positive abnormal returns around the appointment of outside board members.

Given these results, and the fact that an acquisition presents outside directors with the opportunity to demonstrate their expertise and objectivity, a positive association could be expected between bidder returns and the presence or dominance of independent directors. Consistent with this, BH find that the return to shareholders of an acquiring firm in a tender offer is more positive if its board is dominated by non-affiliated directors. In contrast, SRR find that abnormal returns are negatively related to the proportion of outside directors on an acquiring bank's board. Hence, the association between bidder returns and the presence of non-affiliated directors remains unclear.

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[13] See Mace (1986) and Patton and Baker (1987) for detailed discussions of these issues.

4.2.3 Board size and meeting frequency

Another governance dimension that may be related to corporate performance generally and acquisition returns specifically is the size and meeting frequency of the board. As the board increases in size, its talent pool and capacity for monitoring presumably increase as well. Thus, larger boards may be more effective. However, coordination and communication costs also increase with board size. Jensen (1993) suggests that such costs may outweigh the benefits obtainable from larger sizes. Supporting this view, Yermack (1996) finds an inverse relationship between board size and performance as measured by Tobin's q and accounting ratios.

The monitoring and advisory functions of the board are performed through director meetings. Thus, a board that meets more frequently likely devotes more time to the corporation's business and should produce better results than a less active board. This is particularly so in an acquisition situation where the firm is committing substantial resources. Thus, I expect return to be positively related with board meetings. Vafeas (1999) shows that accounting measures of corporate performance increase in the number of board meetings.

4.2.4 CEO attributes

Given the importance of the CEO's position, several personal attributes may affect his performance and consequently the gains or losses realized by shareholders. Three such attributes are the CEO's age, tenure, and membership on outside boards. As the CEO gets older and approaches retirement, the opportunity for ex-post settling up

diminishes. As a result, older CEOs may be less careful in making acquisition attempts and thus earn lower returns.

Similarly, CEOs with long service may become entrenched and perform poorly. However, long-serving CEOs are likely to have acquired important experience that allows them to distinguish poor from good investment opportunities so that performance improves with tenure. In addition, such CEOs have invested a significant portion of their human and reputational capital in the firm and may have more to lose from bad acquisitions. Alternatively, a well-functioning internal control system would eliminate poor CEOs before they stay long enough to cause significant damages. Hence, long-serving CEOs could be survivors with an upwardly biased performance. For these reasons, the association between CEO tenure and acquisition performance can only be determined empirically.

The CEO's membership on boards of unaffiliated public corporations reflects the business community's judgment on his reputation for quality and performance. Thus, the desire to protect this reputation may motivate CEOs serving on outside boards towards better results so that performance improves with service on external boards. However, outside directorship may provide the CEO with an external support web that enhances his entrenchment. In this case, membership on external boards may have a negative effect on performance. Which effect dominates is an empirical issue.

Managerial stock ownership has long been recognized as a means of aligning shareholder and management interests. Specifically, if the CEO owns enough stock, he may be more inclined to ensuring that managerial decisions (including acquisitions) are

value enhancing. Thus, it is plausible to expect a positive association between acquisition returns and CEO stock ownership. Lewellen, Loderer, and Rosenfeld (1985) show that cumulative abnormal returns are increasing in managerial stock ownership. Byrd and Hickman (1992) report similar results.

4.3. Data

4.3.1 Sample construction

The working paper version of Schwert (2000) contains a database of all acquisition attempts involving U.S. exchange-listed targets over the 1975-1996 period.[14] From this database, I select the subset of transactions occurring between 1990 and 1996. There were 487 such transactions. Of these, 122 transactions cannot be used because the bidder is a foreign corporation, a private company, a partnership, or a group of individual investors. After excluding firms that do not have enough data in CRSP to allow estimation of announcement period returns and subsequent bids for firms that made more than one bids in the same year, I am left with 277 bids.

I obtained data on the various dimensions of corporate governance from the most recent proxy filings made in the one-year period preceding the takeover bid. Forty-five firms do not have proxy data. Thus, the base sample consists of 232 transactions. Of these, 155 have data on all corporate governance variables and target and bid characteristics.

[14] I am grateful to Bill Schwert for making this data available.

4.3.2 Variable definitions

Bidder return: I calculate bidder return following a standard event study methodology. Market model parameters are estimated from 250 to 60 trading days prior to the takeover announcement. Schwert (2000) shows that using historical market model estimates as a benchmark for bidders' normal performance is problematic because of positive intercept estimates that reflect unusually good prior performance that does not continue during the event period. To correct for this, he suggests estimating market model parameters with the restriction that the intercept equals zero. This is the approach employed in this paper. The bidder return is defined as the two-day cumulative abnormal return, estimated over days [-1, 0] relative to the takeover announcement day. As a robustness check, I repeat my analysis using alternative event windows. Results are qualitatively similar.

Leadership structure: Leadership structure is measured by a dummy variable set equal to one if the firm has a unitary leadership structure, that is, if the positions of CEO and board chairman are held by the same individual, and zero otherwise.

CEO attributes: I define three measures relating to the CEO. The first is a dummy variable set equal to one if the CEO is close to retirement, that is, if he is 62 or older, zero otherwise. The second is the tenure of the CEO as CEO, while the third is the number of boards of unaffiliated public corporations on which the CEO serves.

Board independence: A director is classified as non-affiliated if he is not an employee of the corporation or any of its subsidiaries or associated companies, and he does not have any business or personal relationship with the firm or its employee-

directors. I rely on information in proxy filings for this classification. Board independence is measured by a dummy variable set equal to one if at least two-thirds of the directors are non-affiliated, and zero otherwise.

Board size and meeting frequency: Board size is the number of directors on the board while meeting frequency is defined as the number of director meetings in the year preceding the takeover announcement, including telephone conferences and written consents.

Equity ownership: I define three equity ownership variables, namely, the proportion of voting equity owned by the CEO, all officers and directors, and unaffiliated principal stockholders.

4.3.3 Descriptive statistics

Table 4.1 presents descriptive statistics on the variables described above. Consistent with prior empirical evidence, average bidder return is slightly negative at -0.49%. With a p-value of 0.11, it is only marginally significant. Median cumulative abnormal return is -0.77%, which is significant at the 1% level.

The leadership structure dummy variable shows that the positions of CEO and chairman of the board are vested in the same individual in 82.76% of the sample firms. This is similar to numbers reported in earlier studies. For example, Brickley, Coles, and Jarrell (1997) report that the two positions are combined in 80.94% of their sample firms while 83% of the firms in Yermack's (1996) sample have unitary leadership.

The typical CEO is approximately 54.30 years old, has served as CEO for a little over seven years, owns 5.02% of his corporation's outstanding voting shares, and sits on 1.42 outside boards. Median CEO stock ownership is 0.27%. On average, non-affiliated directors constitute 67.69% of total board membership and dominate the board (i.e., at least two-thirds are non-affiliated) in 62.23% of all cases. The median board has 11 members, meets eight times, and owns 2.88% of outstanding voting shares in conjunction with officers who are not also directors.

4.4. Empirical Analysis

As a starting point in relating a bidder's governance structure to its acquisition return, I sort the sample firms on the basis of their CARs and classify them into four CAR quartiles, the first consisting of those with the smallest CARs. Average CAR for first quartile bidders is -5.57%, compared to 4.91% for fourth quartile bidders. Both are significantly different from zero at less than the 1% level. Next, I compare average and median values on the various dimensions of corporate governance for first and fourth quartile firms. Results are shown in Table 4.2. As seen in the table, none of the governance variables significantly distinguishes between first and fourth quartile CAR firms. A simple interpretation of this would be to dismiss the governance hypothesis and conclude that a firm's governance structure does not affect the losses or gains of its shareholders in an acquisition attempt. However, since individual univariate tests do not control for other aspects of corporate governance (see Agrawal and Knoeber, 1996) and additional factors that may affect the bidder's return, the results cannot be regarded as conclusive evidence.

I subsequently estimate regressions in which the dependent variable is bidder return. The explanatory variables for the first regression are the various governance variables. The second regression includes several bid characteristics as additional control variables. These characteristics are indicator variables that measure whether the bid is an all-cash bid, whether there are multiple bidders, and whether the target has a poison pill in place. Each regression also includes year dummies and the relative size of the target firm to the bidder. Relative size is defined as the ratio of the target's market capitalization to the bidder's capitalization three months prior to the date of the bid. Year dummies control for potential macroeconomic effects while relative size accounts for the possibility that the statistical significance of the bidder's return is affected by the amount of its investment in the target relative to its total market value. Specification and diagnostic tests indicate no significant heteroskedasticity and no significant multicollinearity. Regression results are presented in Table 4.3.

Table 4.3 suggests a significant association between acquisition return and corporate governance. In each regression, four of the governance variables are statistically significant at the 5% confidence level; a fifth is significant at the 10% level. Three of these relate to the CEO: his closeness to retirement, his tenure as CEO, and his stock ownership. The other two, board size and the dominance of unaffiliated directors, reflect the working and effectiveness of the board.

The signs of the significant CEO variables presents an interesting scenario. On the one hand, acquisition return is increasing in the CEO's tenure. For each additional year of the CEO's service, return improves by 12 basis points. This suggests that the reputation and experience effects of a long tenure dominate any tendency toward

longetivity-induced entrenchment. In contrast to this, however, bidder return is significantly lower when the CEO is close to retirement. The coefficient estimates suggest that such CEOs underperform by about 1.8 percentage points on average. The challenge is how to motivate near-retirement CEOs without prohibiting them from making acquisition attempts. While there are no easy answers and further research is required, the CEO ownership results suggest stock ownership as a possible mitigating factor since returns are increasing in the CEO's ownership. See also Lewellen, Loderer, and Rosenfeld (1985).

As expected, the quality of board monitoring is positively related to bidder returns. The board independence dummy variable (set equal to one if at least two-thirds of board members are non-affiliated) is positive and significant at the 1% level. The parameter estimates suggest that independent boards earn an additional excess return of more than 200 basis points. This is consistent with the hypothesis that non-affiliated directors provide effective monitoring that helps to minimize possible agency conflicts between shareholders and management in an acquisition. It also agrees with most of the empirical evidence on the shareholder wealth effects of independent directors discussed in Section 4.2. Similarly, Table 4.3 shows that small boards make better acquisitions. This suggests that the coordination and communication costs of larger boards outweighs the possible benefits of an increased talent pool and capacity for monitoring.

The leadership structure variable is not significant in either of the regressions in Table 4.3. Thus, the issue of whether or not the roles of CEO and board chairman are separated does not have any effect on the bidding firm's return. This contradicts the position of shareholder activists who imply that a unitary leadership structure is inferior

to separating the positions of CEO and board chairman. However, the result is consistent with a rational equilibrium scenario under which firms choose an optimal leadership structure having respect to their specific circumstances and the costs and benefits of each structure as discussed by Brickley, Coles, and Jarrell (1997). In this case, no firm enjoys special advantages as a result of its leadership structure. Hence, the variable is not significant in the regressions.

4.5. Conclusions

This paper analyzes the relationship between acquisition return and the structure of corporate governance in the bidding firm. I extend prior studies by examining a broader array of governance characteristics in addition to the role of outside directors. The governance dimensions I consider are the corporation's leadership structure, board independence, board size and meeting frequency, CEO age, tenure, and membership on external boards, and CEO, board, and outside block equity ownership.

My results suggest a strong association between bidder return and corporate governance. In particular, I find that return is increasing in the CEO's tenure and stock ownership, but lower if the CEO is close to retirement. In addition, independent and smaller boards perform better. An interesting aspect of the results is that individual governance variables do not distinguish between poor and good acquisitions in univariate tests. This suggests that focusing on individual aspects of corporate governance may not yield desired enhancements in firm performance.

References

Agrawal, A., Knoeber, C. R., 1996. Firm performance and mechanisms to control agency problems between managers and shareholders. Journal of Financial and Quantitative Analysis 31, 377-397.

Baliga, R. B., Moyer, R. C., Rao, R. S., 1996. CEO duality and firm performance: What's the fuss? Strategic Management Journal 17, 41-53.

Brickley, J. A., Coles, J. L., Jarrell, G., 1997. Leadership structure: Separating the CEO and chairman of the board. Journal of Corporate Finance 3, 189-220.

Brickley, J. A., James, C., 1987. The takeover market, corporate board composition, and ownership structure: The case of banking. Journal of Law & Economics 30, 161-181.

Byrd, J. W., Hickman, K. A., 1992. Do outside directors monitor managers? Evidence from tender offer bids. Journal of Financial Economics 32, 195-221.

Cadbury Committee, 1992. Financial aspects of corporate governance (Gee & Co. Ltd., London, England).

Fama, E., Jensen, M. C., 1983. Separation of ownership and control. Journal of Law & Economics 26, 327-349.

Jarrell, G. A., Poulsen, A. B., 1989. The returns to acquiring firms in tender offers: Evidence from three decades. Financial Management 18, 12-19.

Jensen, M. C., 1986. The agency cost of free cash flow, corporate finance, and takeovers. American Economic Review 76, 323-329.

Jensen, M. C., 1993. The modern industrial revolution, exit, and the failure of internal control systems. Journal of Finance 48, 831-880.

John, K., Senbet, L. W., 1998. Corporate governance and board effectiveness. Journal of Banking & Finance 22, 371-403.

Lee, C. I., Rosenstein, S., Rangan, N., Davidson, W. N., 1992. Board composition and shareholder wealth: The case of management buyouts. Financial Management 21, 58-72.

Lewellen, W., Loderer, C., Rosenfeld, A., 1985. Merger decisions and executive stock ownership in acquiring firms. Journal of Accounting & Economics 7, 209-231.
Mace, M., 1986. Directors: Myth and reality (Harvard University Press, Boston, MA).

Morck, R., Shleifer, A., Vishny, R. W., 1990. Do managerial objectives drive bad acquisitions? Journal of Finance 45, 31-48.

Patton, A., Baker, J., 1987. Why do not directors rock the boat? Harvard Business Review 65, 10-12.

Pi, L., Timme, S. G., 1993. Corporate control and bank efficiency. Journal of Banking & Finance 17, 515-530.

Rechner, P. L., Dalton, D. R., 1991. CEO duality and organizational performance: A longitudinal analysis. Strategic Management Journal 12, 155-160.

Rosenstein, S., Wyatt, J., 1990. Outside directors, board independence, and shareholder wealth. Journal of Financial Economics 26, 175-192.

Schwert, G. W., 2000. Hostility in takeovers: In the eyes of the beholder? Journal of Finance 55, 2599-2640.

Subrahmanyam, V., Rangan, N., Rosenstein, S., 1997. The role of outside directors in bank acquisitions. Financial Management 26, 23-36.

Vafeas, N., 1999. Board meeting frequency and firm performance. Journal of Financial Economics 53, 113-142.

Weisbach, M., 1988. Outside directors and CEO turnover. Journal of Financial Economics 20, 431-460.

Yermack, D., 1996. Higher market valuation of companies with a small board of directors. Journal of Financial Economics 40, 185-213.

Table 4.1: Descriptive statistics

The base sample consists of 232 acquisitions attempted between 1990 and 1996. CAR is the announcement period cumulative abnormal return measured over days [-1,0] relative to the takeover announcement date. The numbers in parentheses under mean and median CAR are the p-values for tests of significance of the respective statistic. Leadership Structure is a dummy variable set equal to one if the CEO is also the chairman of the board, zero otherwise. CEO Tenure is the length of the CEO's service as CEO. CEO Outside Boards is the number of boards of unaffiliated public corporations on which the CEO serves. CEO Stock Ownership, Insider Stock Ownership, and Block Ownership are the respective proportion of outstanding voting shares owned by the CEO, all officers and directors, and unaffiliated principal stockholders. Independent directors are non-employee directors with no business or personal relationship with the firm or any of its employee-directors. Independent Board is a dummy variable set equal to one if at least two-thirds of directors are non-affiliated, zero otherwise. Board Size is number of directors. Board Meetings is director meetings in the year preceding the takeover announcement, including telephone conferences and written consents.

Variable	Sample Size	Mean	Median	First Quartile	Third Quartile	Standard Deviation
CAR	232	-0.0049 (0.11)	-0.0077 (0.01)	-0.0296	0.0150	0.0464
Leadership Structure	232	0.828	1.000	1.000	1.000	0.379
CEO age (in years)	229	54.30	55.00	49.00	60.00	7.44
CEO tenure (in years)	217	7.039	6.000	3.000	9.000	6.105
CEO outside Boards	177	1.424	1.000	0.000	2.000	1.495
CEO stock Ownership	210	5.025	0.272	0.066	2.483	14.266
Insider stock Ownership	211	11.727	2.880	0.671	12.871	19.595
Block Ownership	177	9.309	6.100	0.000	16.000	10.247
Proportion of Independent directors	212	0.677	0.714	0.556	0.818	0.180
Independent Board	212	0.623	1.000	0.000	1.000	0.486
Board Size	214	11.294	11.000	9.000	13.000	3.834
Board Meetings	210	8.724	8.000	6.000	11.000	3.507

Table 4.2: Univariate comparisons of best and worst performing bidders.

The base sample consists of 232 acquisitions attempted between 1990 and 1996. Leadership Structure is a dummy variable set equal to one if the CEO is also the chairman of the board, zero otherwise. CEO Tenure is the length of the CEO's service as CEO. CEO Outside Boards is the number of boards of unaffiliated public corporations on which the CEO serves. CEO Stock Ownership, Insider Stock Ownership, and Block Ownership are the respective proportion of outstanding voting shares owned by the CEO, all officers and directors, and unaffiliated principal stockholders. Independent directors are non-employee directors with no business or personal relationship with the firm or any of its employee-directors. Independent Board is a dummy variable set equal to one if at least two-thirds of directors are non-affiliated, zero otherwise. Board Size is number of directors. Board Meetings is director meetings in the year preceding the takeover announcement, including telephone conferences and written consents. P-values are shown in parentheses.

Variable	1st Quartile CAR		4th Quartile CAR		T-test	Wilcoxon
	Mean	Median	Mean	Median		Test
Leadership Structure	0.845	1.000	0.862	1.000	0.260 (0.80)	0.257 (0.80)
CEO age (in years)	53.50	53.50	53.84	55.00	0.265 (0.79)	-0.288 (0.77)
CEO tenure (in years)	5.959	6.000	7.365	5.000	1.254 (0.21)	0.209 (0.83)
CEO outside Boards	1.435	1.000	1.293	1.000	-0.458 (0.65)	-0.133 (0.89)
CEO stock Ownership	1.590	0.229	6.143	0.392	2.050 (0.05)	0.895 (0.37)
Insider stock Ownership	11.691	4.104	11.575	2.474	-0.030 (0.98)	-0.307 (0.76)
Block Ownership	10.329	6.970	9.941	6.440	-0.177 (0.86)	0.290 (0.77)
Proportion of Independent directors	0.684	0.700	0.689	0.750	0.117 (0.91)	0.100 (0.92)
Independent Board	0.625	1.000	0.706	1.000	0.879 (0.38)	0.876 (0.38)
Board Size	11.911	12.000	11.059	11.000	-1.136 (0.26)	-0.853 (0.39)
Board Meetings	8.839	8.000	8.540	8.000	-0.450 (0.65)	-0.417 (0.68)

Table 4.3: Results of regression relating bidder return to governance structure.

The sample consists of 155 acquisitions attempted between 1990 and 1996. The dependent variable in each regression is the day [-1,0] cumulative abnormal return. Leadership Structure is a dummy variable set equal to one if the CEO is also the chairman of the board, zero otherwise. CEO Outside Boards is the the number of boards of unaffiliated public corporations on which the CEO serves. Board Size is the number of directors on the board. Board Meetings is the number of board meetings in the year preceding the takeover announcement, including telephone conferences and written consents. Independent directors are non-employee directors with no business or personal relationship with the firm or any of its employee-directors. Board Independence is a dummy variable set equal to one if at least two-thirds of directors are independent, zero otherwise. Poison Pill, Auction, All-cash Bid, and Tender Offer are dummy variables which equal one if the target has a poison pill in place, if there are multiple bidders, if target shareholders receive an all-cash offer, and if the bid is a tender offer, respectively. Relative Size is the ratio of the target's market capitalization to the bidder's capitalization three months prior to the date of the bid. P-values are shown in parentheses.

Table 4.3 continued

Variable	I	II
Leadership Structure	-0.0084 (0.37)	-0.0059 (0.53)
CEO is 62 years Old or older	-0.0191 (0.04)	-0.0177 (0.06)
CEO tenure as CEO (in years)	0.0012 (0.04)	0.0012 (0.05)
CEO stock Ownership	0.0006 (0.07)	0.0005 (0.08)
CEO outside Boards	-0.0028 (0.25)	-0.0027 (0.27)
Board Size	-0.0026 (0.01)	-0.0026 (0.01)
Board Meetings	0.0003 (0.71)	0.0004 (0.70)
Board Independence	0.0228 (0.00)	0.0214 (0.01)
Ownership of 5% Block holders	-0.0003 (0.35)	-0.0003 (0.38)
Relative Size	0.0019 (0.53)	0.0021 (0.50)
Poison Pill	---	-0.0209 (0.16)
Auction	---	0.0090 (0.40)
All-Cash Bid	---	0.0120 (0.18)
Tender Offer	---	-0.0078 (0.45)
Sample size	155	155
Model F (p-value)	2.76 (0.00)	2.43 (0.00)
Adjusted R-squared	0.0715	0.0760

CHAPTER 5

CONCLUSION

This dissertation examines three issues relating to the governance and control of the public corporation. Chapter 2 takes an external view of the corporate control process and investigates the effectiveness of the proxy fight in containing the agency problems of corporate free cash flow. Excessive liquidity indicates a breakdown of the internal control processes intended to minimize possible divergence of interest between shareholders and management. The paper shows that this breakdown is mitigated by shareholders acting via a proxy fight to refocus management on value maximization or replace the incumbent team. Not only are cash-rich firms more likely to become targets of a proxy fight, but excess cash is eliminated in a wealth maximizing manner after the contest.

The second and third papers focus on the internal control process itself. Chapter 3 studies how corporate governance differs in firms with a significant labor equity participation. As important stakeholders with fixed contractual claims, the acquisition of equity stakes by employees introduces interesting complications that have the potential to affect the effectiveness of corporate governance. The paper documents empirical evidence suggesting that labor uses its corporate governance clout to maximize the combined value of its contractual and residual claims, and that this often pushes corporate policies away from, rather than towards, shareholder value maximization.

Chapter 4 examines the role of corporate governance in acquisition performance by relating the bidding firm's return to the structure, composition, and monitoring activities of its board of directors. This paper provides an insight into the factors that affect the effectiveness of corporate governance, especially in large transactions. Interestingly, individual governance factors such as leadership structure, dominance of independent directors, and board size do not distinguish poor from good performers in univariate tests. Only when these variables are included in a multiple regression framework does the difference in governance become significant. This suggests that focusing on individual aspects of the internal control process may not yield desired enhancements in firm performance. A more concerted approach to improving governance is required.